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REGIONAL IMPACT OF A GAS PIPELINE

NORTHERN VOL. V





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REGIONAL IMPACT
OF
A NORTHERN GAS PIPELINE

Volume 5 - Impact of Pipelines on Traditional Activities of
Hunter-Trappers in the Territories

An Appraisal Prepared By

The Economic Staff Group
Northern Economic Development Branch
Department of Indian Affairs
And Northern Development

and

MPS Associates Ltd.

for the
Environmental-Social Program
Northern Pipelines

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Canada
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2 Maps & Map Index

The data for this report were obtained as a result of investigations carried out under the Environmental-Social Program, Northern Pipelines, of the Task Force on Northern Oil Development, Government of Canada. While the studies and investigations were initiated to provide information necessary for the assessment of pipeline proposals, the knowledge gained is equally useful in planning and assessing highways and other development projects.

PREFACE

SIGNIFICANT ALTERATIONS IN BASE DATA RELATED TO THE CONSTRUCTION OF THE PIPELINE AFTER COMPLETION OF ANALYSIS

Basic information concerning the cost of constructing the Mackenzie Valley Gas Pipeline, its route, specifications and the timing of construction was available in only a rudimentary form when the study of the Regional Impact of a Northern Gas Pipeline was undertaken. Although there remain large areas of uncertainty concerning many important aspects of the phases of construction of the pipeline, present knowledge of construction is understandably more complete today than it was when the study began. Certain assumptions made in the study are no longer applicable but it is considered that the overall analysis remains valid, even in the light of these changes. This Preface points out the significant changes in cost estimates, pipeline specifications, pipeline routing, and construction scheduling which are a result of more recent knowledge.

(i) Overall Cost

The Impact Study was provided with estimates of the costs of building the pipeline in the North by the various study groups which suggested a value of approximately \$1.2 billion. Present statements by Canadian Arctic Gas Study Limited suggest a value of \$5 billion. The difference between these estimates is mainly due to the fact that the \$5 billion figure refers to the complete project, including the Alaska and southern Canada sections. According to estimates prepared by the Northern Program Planning Division (formerly the Economic Staff Group) if these costs are expressed in 1973 constant dollars, the \$1.2 billion estimate would be \$1.4 billion, while the \$5 billion estimate, when adjusted to measure only the cost of the relevant sections of the pipeline,

would be \$2.0 billion. Of the difference, \$140 million is caused by more expensive financing costs, while the rest of the increase stems from an underestimate of the cost of materials and equipment. The initial estimates of labour requirements and costs appear to remain valid.

(ii) Pipeline Routing

The initial aim of building the Mackenzie Valley Gas Pipeline was to transport natural gas from Prudhoe Bay, Alaska to markets in the U.S.A., with the prospect of linking any finds in the Mackenzie Delta to it at a later time. In the light of gas discoveries in the Delta it now seems more likely that the Delta connection would be made concurrently with or even preceding the Prudhoe Bay connection. This shift in interest to the Mackenzie Delta region prompted the need to investigate the impact of the long-term development of the petroleum industry in this region. Thus additional analysis was carried out on the possible impact of future development prospects on the Delta region, and the results of this work are shown in Chapter 14 of Volume 1.

(iii) Construction Phases

The Impact Study has assumed that major pipeline construction activity would proceed more or less continuously over three and a half years, beginning in early 1976, and finishing in 1979. Although the exact time periods involved are still a matter of some speculation, current plans aim to start construction in the winter of 1976-1977 and to spend only two construction seasons on building the pipeline through the Mackenzie delta, with a third winter for an extension to Prudhoe Bay. Major construction activity will be limited to four winter months in the year. Thus more recent plans are based on significantly more

optimistic construction schedules than those outlined in the study. This will clearly lessen the duration of the impact of the construction of the pipe on the Territories, relative to some of the results of analysis in the study.

(iv) Pipe Specification

The major change in pipe specifications that is of concern to the study concerns the wall thickness of the pipe. Northern sections of the pipe will have a thickness of 0.75", which is approximately 15 per cent thicker than that anticipated. This means that the pipe is some 15 per cent heavier than had been assumed, and, in the light of this, the estimate of transportation requirements has been reviewed. The overall weight of pipe to be moved into the Territories is now estimated at 866,000 tons compared to 750,000 tons initially estimated. However, since the number of lengths of pipe would remain unaltered, there would be no significant change in the number of men required to handle and transport them.

The major impact of the heavier pipe appears to arise from the need to have more units of pipe-laying equipment than would otherwise be the case.

(v) Mackenzie Highway

Completion of construction of the Mackenzie Highway before the construction of the pipeline was not anticipated in the study. The decision to accelerate construction of the highway will provide an alternative means to the Mackenzie River, of transporting material and equipment to stockpiles along the pipeline route. The impact of a highway on the pipe installation would be significant because it would induce a major shift in the expected pattern of transportation of the pipe and

equipment away from barges and onto trucks. Although the large traffic is thought to remain predominant, the ton-miles of materials carried by highway is expected to be triple that originally estimated.

August 20, 1973

Northern Program Planning Division

INTRODUCTION

This volume consists of a background study of the economic impact on Canada's northern territories of constructing and operating a large diameter gas pipeline from Alaska through the Mackenzie Valley to the northern border of Alberta. The overall evaluation is in the form of seven volumes:

- Volume 1 - Summary Report
- Volume 2 - Relevant Aspects of Pipeline Construction and Operation in the Territories and Impact on Local Petroleum Resources
- Volume 3 - Impact of a Pipeline on Territorial Transportation Facilities, Resource Output and Industrial Development
- Volume 4 - Impact of Pipelines on Selected Territorial Communities
- Volume 5 - Impact of Pipelines on Traditional Activities of Hunter-Trappers in the Territories
- Volume 6 - Impact of Pipelines on Territorial Population, Labour Force, Employment and Income (Wages)
- Volume 7 - Analysis of overall Territorial Impact of a Through Gas Pipeline

The Economic Staff Group, Northern Economic Development Branch, Department of Indian and Northern Affairs initiated the research project in 1971. The evaluation was undertaken as a joint project between the Economic Staff Group and MPS Associates Ltd. Both groups provided members to the project team. Research topics were allocated to individual members who prepared relevant volumes.

The conclusions in Volume 1 are those of the study group as a whole, while the conclusions and opinions in Volumes 2 to 7 are those of the respective author(s).

The author of Volume 5 was Don Bissett of the Economic Staff Group. This volume could not have been completed without the generous permission given the Game Management Service, Department of Industry and Development, Government of the Northwest Territories, and the Game Branch, Yukon Territorial Government, to examine data on fur and game.

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Terms and Abbreviations

I.A.N.D.	- Department of Indian Affairs and Northern Development
D.P.W.	- Department of Public Works
R.C.M.P.	- Royal Canadian Mounted Police
I.N.H.S.	- Indian and Northern Health Service
D.N.H.W.	- Department of National Health and Welfare
M.O.T.	- Ministry of Transport (formerly D.O.T. Department of Transport)
N.C.P.C.	- Northern Canada Power Commission
Native	- Indian, Eskimo or Métis resident in the Mackenzie Valley and Yukon
Non-native	- Person not of Indian or Métis origin
Traditional Activities	- Activities of hunting, trapping and fishing
Social Legislation	- Payments in the form of old age pensions, blind persons' pensions, etc.
Social Assistance	- Welfare payments made at local level based on economic need, child care, etc.
Unearned Income	- Income derived from social legislation and social assistance
Hunter-Trapper	- Person holding a General Hunting Licence, N.W.T.

TRADITIONAL ACTIVITIES

The traditional activities of hunting, trapping and fishing are an important segment of the general economy of the Mackenzie Valley. Fur is the major export commodity from communities along the proposed gas pipeline routings. Hunting and fishing are vital sources of food to resident groups, in particular, Eskimos, Indians and Métis. There is some evidence that traditional activities have become static or have begun to decline in some areas with a diversification in the local economies. Wildlife resources are inextricably related to "the land" concerns of northern residents and potential results of development activities such as pipelines cannot be ignored by government(s) or private industry.

The trapping industry in the Mackenzie Valley is essentially a seasonal activity. Only a small number of Mackenzie Valley residents are dependent on trapping and other traditional activities on a full-time basis as a source of real and imputed income. The remainder depend on a mix of traditional activities and various forms of wage employment (e.g. seasonal work, casual work, etc.). The number of trappers fluctuates from year to year according to a number of factors such as the availability of wage employment and fur prices. It is anticipated the trapping industry will decline during the next ten years as a result of employment of hunter-trappers in pipeline and highway construction and a general expansion in the Valley economy.

Food production from big game hunting appears to be on the decline. This appears to be coincidental with a general trend from traditional activities rather than a depletion of the resource base. There is a continuing need for effective training and resource management programs

to assist northern residents in participating in the development of non-resident hunting, sports and commercial fishing and tourism. Organized hunts from the communities may offset declines in food production by individual hunter-trappers.

Summary

1. A very small number of hunter-trappers in the Mackenzie Valley are active trappers or fully dependent on the renewable resource base. The majority are dependent on a mix of wage employment and traditional activities as a source of earned income. Various forms of unearned income and increasing settlement amenities are contributing to a decline in traditional activities.

2. The "recruitment rate" of young Indians, Eskimos and Métis into the traditional activities appears low. The limited results of the Mackenzie Manpower Survey indicated only 28 of 382 hunter-trappers were in the 15-19 years age group. Increased participation is unlikely to occur due to competition from other activities such as wage employment.

3. The traditional activities may decline in importance to local economies during the forecast period as the prime labour force moves into alternative forms of employment associated with pipeline developments, highways, etc. The trapping industry will decline in importance as a cash income source while hunting and fishing will continue to be of some importance as sources of local food.

4. Alternative use of the renewable resource base (e.g. national park developments, non-resident big game hunting, sports fishing and eventually tourism) could become increasingly important as income sources for northern residents.

5. The implementation of land use and other regulations to safeguard biotic resources may ameliorate many of the potentially harmful effects of pipeline and highway developments.

PART A

CURRENT STATUS OF THE TRAPPING INDUSTRY IN THE
MACKENZIE VALLEY

Hunting, trapping and fishing continue to be of importance to residents in the Mackenzie Valley. Trapping continues to provide a source of real income to numbers of part-time and full-time hunter-trappers. In 1968-69, hunter-trappers in the Mackenzie Valley harvested 41 per cent of the total fur value produced in the Northwest Territories as opposed to 31.7 per cent in 1969-70.

TABLE 1VALUE OF FUR PRODUCTION, 1968-70

<u>Year</u>	<u>N.W.T.</u>	<u>Mackenzie Valley</u>	<u>Per Cent</u>
1968-69	\$1,159,515.04	\$ 480,659.73	41 *
1969-70	995,534.53	315,573.82	31.7

* In 1968-69 Mackenzie Valley hunter-trappers harvested fur and game having an estimated value of \$1,194,525.03. Hunting accounted for an estimated \$501,519.55 of this amount.

Hunter-trappers in the Mackenzie Valley remain highly dependent on big and small game as a source of meat. Seasonal domestic fishing is also an important food source.

Modification of game and fur habitat has dramatically increased during the past decade due to rapid increase in mineral and petroleum exploration and the construction of roads and airstrips. Proposed pipeline and highway routings cross important traditional hunting, trapping and fishing areas. ^{1/}

^{1/} See Map and Map Index contained in end pocket
Appendices 1 to 27, pages 52-83 relate specifically to this chapter.

The seasonal cycle of resource harvesting has been examined by a number of authors.^{1/} Briefly the seasonal cycle consists of early winter hunting and trapping, mid-winter trapping, spring hunting and trapping, summer fishing, autumn hunting and fishing. The winter season and early spring are the most important seasons in producing cash income by the trapping. Autumn, early winter and early spring are the most important periods in terms of hunting for food. Fishing is predominantly a summer and autumn activity, although some ice fishing is carried out to supplement food resources in winter. Today few hunter-trappers engage in resource harvesting activities as a full-time occupation because alternative and more lucrative sources of employment are available in the settlements. Real and imputed incomes from hunting, trapping and fishing are insufficient to meet increasing needs for non-local goods and services.

Important Fur species of the
Mackenzie Valley

Muskrat, beaver, marten, mink and lynx are the major fur species of the Mackenzie Valley in terms of income production. White fox occur on the extreme northern margins and do not form an important fur species for most hunter-trappers in the Valley. Fluctuations in the harvest of various species are tabled below. The statistics have been compiled from fur takes of hunter-trappers in the sixteen communities in the pipeline corridor.

^{1/}

Bissett, D. The Lower Mackenzie Region, D.I.A.N.D., Ottawa, 1967

Villiers, D. The Central Mackenzie, D.I.A.N.D., Ottawa, 1968

Higgins, G. The Lower Liard Region, D.I.A.N.D., Ottawa, 1968

TABLE 2

HARVEST OF MAJOR FUR SPECIES, MACKENZIE VALLEY, 1960-70*

NUMBER OF PELTS

<u>Year</u>	<u>Muskrat</u>	<u>Beaver</u>	<u>Marten</u>	<u>Lynx</u>	<u>Mink</u>
1960-61	152,729	4,056	9,251	1,571	4,656
1961-62	262,462	5,151	8,247	2,663	3,137
1962-63	176,697	4,318	10,437	3,887	3,985
1963-64	95,578	6,229	14,152	2,161	3,445
1964-65	77,800	6,466	8,911	562	1,884
1965-66	90,951	6,298	5,785	1,073	1,568
1966-67	127,861	5,718	7,353	502	1,338
1967-68	205,755	5,847	9,057	501	1,817
1968-69	223,349	6,138	8,204	1,745	2,306
1969-70	83,860	5,947	8,835	3,219	4,104

* Fur Production Figures based on fur export returns, N.W.T.

The harvest is dependent on a number of factors such as cyclical fluctuations in species, climatic conditions, fur prices and competing activities (e.g. wage employment, hunting, etc.).

Muskrat and beaver are particularly susceptible to habitat modifications due to localized population densities. Environmental damage such as large scale oil spills in the Mackenzie Delta or its attendant drainage systems could have profound effects on the muskrat and beaver populations in the Delta.

Muskrat

Muskrat is the most important fur species in the Mackenzie Valley in terms of numbers of pelts harvested and economic returns to trappers. It is distinctly regional in importance with a major part of the harvest being taken in the Lower Mackenzie region. Elsewhere trappers are dependent on other fur species and muskrat is secondary in importance to other species such as beaver, marten, mink.

The muskrat harvest has shown large scale fluctuations in the period 1961-65 when the take declined from 262,462 to 77,800 pelts. A large scale increase occurred reaching a high of 233,349 pelts in 1968-69. A large scale decrease occurred in 1969-70 when only 83,860 pelts were taken.

A variety of factors such as habitat change, cyclical trends and price affect the muskrat harvest. Alternative forms of employment have become increasingly important.

Beaver

There has been a gradual increase in beaver harvests from 1960 to 1970. Average beaver prices have varied from \$10.19 to \$13.62 during the period. In addition to fur values, beaver are an important seasonal food source.

Factors Affecting the Trapping Industry

There are a number of factors which affect the trapping industry in the Northwest Territories. Among these are:

- (1) Cyclical fluctuations in fur species (lynx, marten, muskrat),
- (2) Fur price variations on both a short and long term basis,
- (3) Limited credit and marketing facilities,
- (4) Apparent decline in social values associated with traditional pursuits.

The majority of these are beyond the control of the trapper or trappers' associations. The Game Management Service of the Department of Industry and Development has assisted trappers through trapping advances, assistance in marketing furs at auction sales outside the Territory and resource harvesting programs to increase productivity (game and fish).^{1/}

^{1/} The program for the Inuvik Region in 1971-72 is listed in the appendices.

Increasing settlement amenities and various forms of social assistance combined with the factors listed above appear to have reduced the incentives for trapping.

The bulk of the fur harvest is sold to local fur traders. There is a variation in prices paid for furs in different communities of the Mackenzie Valley. The fur prices paid in a number of sample communities were examined for the period 1961-69. The results are tabled in the appendices and show a considerable variation in prices between communities.

Fur Quality and Variance in Local Pricing

Poor fur quality has been an endemic problem in the Northwest Territories. A number of trappers sell improperly finished or damaged pelts (e.g. shot muskrats) and this is a major factor in lower average fur prices being received in the Territories than those received in the Provinces. Lack of competition among traders in relatively isolated communities places trappers at a distinct disadvantage. Price advantage from consignment sales outside the Territories is not available for all species in any given year and shipment of furs requires a certain amount of selectivity. The profit margin may or may not be sufficient to warrant shipping some fur species to auction.

Table 3

COMPARISON AVERAGE FUR PRICES, ALBERTA,
N.W.T., AND YUKON TERRITORY, 1968-70
(Dollars)

Species	<u>Alberta</u>		<u>N.W.T.</u>		<u>Y.T</u>	
	1969-70	1968-69	1969-70	1968-69	1969-70	1968-69
Beaver	\$16.43	\$16.48	\$12.78	\$13.69	\$12.68	\$13.29
White Fox	19.25	18.48	13.83	12.21	22.50	17.31
Lynx	30.18	27.05	22.81	28.10	23.91	20.96
Marten	10.25	10.00	11.48	9.15	9.56	8.85
Mink	12.69	12.17	14.42	17.66	6.17	12.32
Muskrat	1.29	1.25	.97	1.05	.85	1.15

* Statistics Canada, D.B.S. catalogue 23-207, Fur Production, 1969-70 season.

In 1971, it was estimated that 10 per cent of all furs produced in the N.W.T. were sold outside the Territories through the marketing system established by the Game Management Service. The Game Management Service estimates that trapper profit varies greatly by species but shows an average increase of between 19-22 per cent.

Fur exports including local sales are included in the appendices. Trappers throughout the Valley have been encouraged by the Game Management Service of the Department of Industry and Development to ship furs to auction. The amount of fur shipped to outside dealers varies from year to year depending on quantities taken, price variation and the need for income.

Table 4

FURS EXPORTED FOR SALE BY CONSIGNMENT FROM
MACKENZIE VALLEY, 1968-69*

<u>Species</u>	<u>Total No. Harvested</u>	<u>No. Exported For Consignment Sale</u>	<u>Per Cent</u>	<u>Estimated Income From Consignment Sale **</u>
Muskrat	233,349	15,042	6.49	\$18,802.50
Beaver	6,138	1,583	25.79	26,657.72
Lynx	1,745	359	20.57	9,710.95
Marten	8,204	2,049	24.98	20,490.00
Mink	2,306	471	20.04	5,732.07
Total Value				\$81,393.24

*Token quantities of other fur species were also shipped from the Valley.

**Based on average fur prices.

Tables 5 and 6 on local fur sales during the period 1961-1970 reveal there have been considerable fluctuations in local fur incomes in communities of the Mackenzie Valley.

Table 5
VALUE LOCAL FUR TRADE
MACKENZIE VALLEY COMMUNITIES
1961-69

<u>Community</u>	<u>1961/62</u>	<u>1962/63</u>	<u>1963/63</u>	<u>1964/65</u>	<u>1965/66</u>	<u>1966/67</u>	<u>1967/68</u>	<u>1968/69</u>
Aklavik	\$ 60,358.55	\$ 71,751.86	\$ 56,904.10	\$ 42,814.91	\$ 66,724.80	\$ 41,280.51	\$ 49,959.35	\$ 99,706.76
Inuvik	74,356.45	111,062.45	109,878.75	74,429.90	74,336.40	74,725.60	60,799.67	127,002.55
Tuktoyaktuk	10,063.90	27,826.21	30,537.05	13,792.15	13,764.35	8,613.25	2,948.15	8,001.90
Fort McPherson	34,544.90	52,237.17	45,912.50	33,021.76	48,195.50	26,994.52	43,682.35	72,603.20
Arctic Red River	4,565.50	7,651.50	14,108.50	2,836.40	4,217.99	2,580.40	2,561.10	8,879.39
Fort Good Hope*	38,977.93	43,362.30	53,308.38	29,310.44	32,754.88	34,440.95	19,635.10	19,077.45
Fort Norman**	9,309.45	16,043.25	24,533.05	11,286.51	9,772.45	12,763.70	13,818.90	11,070.50
Fort Franklin	9,185.35	22,278.75	34,162.80	20,016.60	21,594.85	24,456.35	20,658.05	23,222.05
Wrigley	11,778.85	15,195.45	16,703.45	6,215.25	4,604.03	3,106.00	8,368.30	11,700.01
Fort Simpson***	19,924.40	32,895.35	42,270.10	33,124.79	37,569.03	30,301.82	29,888.02	28,489.22
Nahanni Butte	8,609.35	13,188.65	10,805.50	7,217.90	7,159.60	6,226.60	12,555.90	10,220.50
Fort Liard	13,389.14	18,305.00	16,978.05	11,633.32	8,589.25	7,593.75	10,505.14	11,670.20
Fort Providence	16,481.95	12,753.70	10,446.46	8,041.30	6,073.49	6,070.40	9,342.08	16,081.55
Hay River	<u>21,155.90</u>	<u>25,828.13</u>	<u>17,008.25</u>	<u>5,124.85</u>	<u>7,659.55</u>	<u>10,051.85</u>	<u>17,275.85</u>	<u>32,934.45</u>
Total	\$332,701.62	\$470,379.77	\$483,556.99	\$298,866.08	\$343,016.17	\$289,205.70	\$301,997.96	\$480,659.73

Source : Fur Traders' Record Books

* Colville Lake returns included with Fort Good Hope

** Norman Wells fur take included with Fort Norman

*** Jean Marie River fur take included with Ft. Simpson

Table 6

LOCAL FUR TRADE, MACKENZIE VALLEY COMMUNITIES
1969-70

<u>Community</u>	<u>No. Trading Companies</u>	<u>Value Local Fur Purchases*</u>
Aklavik	3	\$65,855.83
Inuvik	2	86,373.17
Tuktoyaktuk	1	9,462.50
Fort McPherson	3	20,173.89
Arctic Red River	1	1,408.75
Fort Good Hope	1	8,950.00
Colville Lake	1	5,204.80
Fort Norman	1	10,861.90
Fort Franklin	1	20,967.99
Wrigley	1	8,648.15
Fort Simpson	2	24,114.59
Jean Marie River	1	2,926.50
Nahanni Butte	2	6,475.10
Fort Liard	1	12,783.85
Hay River	3	12,034.70
Fort Providence	1	19,332.10
Total	25	\$315,573.82

* Monies paid to local trappers by fur traders.

General Hunting Licences^{1/}

There has been a marked increase in the number of general hunting licences issued in communities in the Mackenzie Valley during the periods 1959-60 and 1969-70. However, the number of active trappers fluctuates yearly depending on other competing forms of economic activity in the settlements or elsewhere, e.g. settlement construction programs, seismic activities. A number of general-hunting-licence holders either do not actively hunt or trap or may participate only in the spring hunts for muskrat or beaver. Information on the number of general hunting licences, trappers and income ranges from 1967 to 1970 has been included in the appendices.

In the Lower Mackenzie region, 394 out of 614 trappers earned less than \$200.00 from trapping in 1969-70. Ninety-five trappers out of 191 earned less than \$200.00 in the Central Mackenzie while 187 out of 299 trappers of five Upper Mackenzie communities earned less than \$200.00 in 1969-70. Four hundred and twenty-eight trappers had incomes ranging from \$200.00 to \$7,369.05.

A survey by the Game Management Service, Department of Industry and Development, Northwest Territories Government, listed the number of "active trappers" resident in the Mackenzie Valley in 1971 according to income (\$1,000.00) and/or time (2 months) spent on the trapline or trapping area. Only 203 trappers were identified as "active trappers" in the 17 Mackenzie Valley communities although 1,104 trappers sold furs in 1969-70.

^{1/} General hunting licences are held by Indians, Eskimo, Métis and a few long term resident non-natives. Recent residents in the N.W.T. have restricted licences to hunt big game in specific areas.

The survey also revealed that only 121 hunter-trappers from 12 communities were fully dependent on the "land" resources (fur, game, fish) as sources of earned income (real and imputed) although 962 hunter-trappers sold furs and 268 harvested big game. Information on five communities was not available.

Bissett (1967) provided estimates on basic trapping equipment costs of \$1,732.70 for trappers operating in the Lower Mackenzie region.^{1/}

The Area Economic Surveys carried out in the Mackenzie Valley in 1966, 1967 and 1968 reveal that many hunter-trappers have been poorly equipped to take maximum advantage of the resource base.^{2/}

Trapping incomes in the Mackenzie Valley during 1969-70 reveal the majority of trappers are earning insufficient money from trapping to maintain themselves or renew necessary equipment. The majority of trappers are dependent on wage employment to obtain trapping grubstakes and maintain their trapping outfits.

The Department of Industry and Development, N.W.T., supports resource harvesting activities in a variety of ways such as loans and transportation to resource areas.

Game officers are resident in Aklavik, Fort McPherson, Inuvik, Fort Good Hope, Fort Norman, Fort Simpson and Hay River. In addition to the enforcement of regulations, they encourage hunter-trappers to use new resource areas for hunting, trapping and domestic fishing, etc. They also assist trappers in shipping furs to auctions in the provinces.

^{1/} Bissett, D., The Lower Mackenzie Region, D.I.A.N.D. 1967, p. 357.

^{2/} The Lower Mackenzie Region, 1967, The Central Mackenzie, 1968, The Lower Liard Region, 1968, D.I.A.N.D.

Table 7

RANGE OF TRAPPER INCOMES
LOWER MACKENZIE REGION
1969-70

Income Range	Aklavik	Inuvik	Tuktoyaktuk	Fort McPherson	Arctic Red River
Dollars					
Over - 1700	3*	8**	-	-	-
1600 - 1699	2	-	-	-	-
1500 - 1599	2	-	-	1	-
1400 - 1499	2	-	-	-	-
1300 - 1399	2	2	-	1	-
1200 - 1299	-	4	-	-	-
1100 - 1199	1	3	-	-	-
1000 - 1099	3	9	-	-	-
900 - 999	3	5	-	-	-
800 - 899	1	5	-	1	-
700 - 799	3	5	1	1	1
600 - 699	8	3	1	1	-
500 - 599	5	10	1	3	-
400 - 499	11	9	1	3	-
300 - 399	12	12	1	10	-
200 - 299	19	25	6	10	-
Under 200	130	126	36	83	19
TOTAL	207	226	47	114	20

* High individual fur incomes of \$3,123.00, \$3,045.00, \$7,369.05 were recorded in 1969-70 in addition to the range shown above.

** Individual fur incomes of \$1,947.70, \$2,002.00, \$2,132.70, \$2,366.90, \$2,551.75, \$2,749.75, \$3,783.60 and \$5,303.70 were recorded in 1969-70. The total includes a number of trappers from other communities (Arctic Red River, Ft. McPherson, Tuktoyaktuk, Sachs Harbour, Aklavik).

Table 8

RANGE IN TRAPPER INCOMES
CENTRAL MACKENZIE
1969-70

Income Range	Fort Good Hope	Colville Lake	Fort Franklin	Fort Norman*
Dollars				
Over 1600				1
1500 - 1599	-	-	-	1
1400 - 1499	-	-	-	1
1300 - 1399	-	-	-	-
1200 - 1299	1	-	3	-
1100 - 1199	-	-	2	-
1000 - 1099	1	-	1	1
900 - 999	-	-	1	-
800 - 899	-	-	2	-
700 - 799	2	-	2	1
600 - 699	5	-	1	-
500 - 599	6	-	8	-
400 - 499	2	-	4	3
300 - 399	5	1	8	6
200 - 299	10	2	5	10
Under 200	28	9	30	28
TOTAL	60	12	67	52

* One trapper had earnings of \$2,155.31 at Fort Norman.

Table 9

RANGE IN TRAPPER INCOMES

UPPER MACKENZIE

1969-70

Income Range	Hay River	Fort Liard	Nahanni Butte	Fort Simpson	Wrigley
Dollars					
Over 1600	-	-	-	-	-
1500 - 1599	-	-	-	-	1
1400 - 1499	-	-	-	1	-
1300 - 1399	-	1	-	1	1
1200 - 1299	-	-	-	1	1
1100 - 1199	-	-	-	1	1
1000 - 1099	1	3	-	1	2
900 - 999	-	1	2	1	2
800 - 899	1	-	-	1	-
700 - 799	-	3	-	2	-
600 - 699	-	2	4	1	2
500 - 599	2	1	4	2	5
400 - 499	6	4	4	3	2
300 - 399	4	3	1	1	2
200 - 299	12	8	-	4	7
Under 200	69	25	5	74	14
TOTAL	95	51	20	94	40

Based on Fur Traders' record books

Table 10

COMPARISON OF INCOME RANGES OF TRAPPERS BY REGION,
1969-70

Income Range		Lower Mackenzie Region	Central Mackenzie Region	Upper Mackenzie Region
\$1,700	Over	11	-	-
1,600	- 1,699	2	1	-
1,500	- 1,599	3	1	1
1,400	- 1,499	2	1	1
1,300	- 1,399	5	-	3
1,200	- 1,299	4	4	2
1,100	- 1,199	4	2	2
1,000	- 1,099	12	3	7
900	- 999	8	1	6
800	- 899	7	2	1
700	- 799	11	5	5
600	- 699	13	6	9
500	- 599	19	14	14
400	- 499	24	9	19
300	- 399	35	20	11
200	- 299	60	27	31
Under	200	394	95	187
TOTAL		614	191	299

* Gross fur incomes from local fur sales.

Resource Utilization Areas

There appears to have been little change in resource utilization areas during the periods between the Area Economic Surveys in the Mackenzie Valley (Lower Mackenzie, 1965-66, Central Mackenzie, 1967, and Lower Liard, 1968 and the current period (Map 1, 1970).^{1/}

In general, the game reports of the Game Management Service, N.W.T. indicate that hunter-trappers have continued to use the traditional areas noted earlier. Game Management Service officers and Industrial Development officers have encouraged and assisted various groups to extend their resource harvesting operations to areas which have not been extensively used (e.g. Arctic Red River fishing project at Travaillant Lake, Fort Franklin hunting, trapping and fish project in the Johnny Hoe River area). However, fur and game returns indicate that individual hunter-trappers and groups of hunter-trappers are not using their hunting and trapping areas as intensively as in the past.

The Inuvik and Fort Simpson fur and game returns indicate that many hunter-trappers in larger communities actively hunt, trap and fish. Fur productivity of Inuvik trappers continues to be high, while many individual game takes at Fort Simpson exceed those of hunter-trappers in smaller, isolated communities such as Trout Lake. Many hunter-trappers and fishermen in the larger communities are better equipped and appear to function more effectively at resource harvesting activities than hunter-trappers in smaller, isolated communities.

^{1/} Bissett, D., 1967, p. 291
Higgins, G., 1968, p. 143
Villiers, D., 1968, p. 33

The Area Economic Surveys were a series of socio-economic surveys carried out in the Northwest Territories in the 1960's by the Industrial Division, Department of Northern Affairs and National Resources, Ottawa.

Trapping As a Seasonal Income Source

Trapping is strictly seasonal in terms of income production.^{1/} The monthly fur records at Fort McPherson and Fort Norman were examined to obtain some indication of monthly fur income patterns. Trapping produces income from November to the middle of June with an occasional carry over into July as trappers finish and market pelts. Fur income peaks occur at Fort McPherson in December and January and May and June. The same pattern occurs at Fort Norman.

The trapping season commences in November with trappers concentrating on fine furs (mink, marten, lynx and fox). Emphasis on these species continues through the winter months. Muskrat trapping begins towards the end of March and continues into the spring months with trapping being supplemented or superseded by shooting during the break-up in May and early June. Beaver trapping and hunting begin in the early spring, March, and continue into the break-up period in May and early June.

Hunter-trappers also hunt during the trapping period. Many trappers are able to harvest game as well as furs in trapping areas or along traplines. Winter and spring caribou hunts are carried out on the Peel Plateau in the Fort McPherson area and may compete with trapping in terms of time if the herds are readily accessible although some hunter-trappers combine marten trapping and caribou hunting.

The summer and early autumn months are generally non-productive in terms of cash income from traditional activities, although some hunter-trappers may earn small amounts of income through the local sale of game meat, fish or berries.

^{1/} For a detailed elaboration of the seasonal cycles in the Lower Mackenzie region the reader is referred to the Lower Mackenzie Region, D.I.A.N.D., Ottawa, 1967, p. 293.

Many of the less productive trappers participate in the relatively easy trapping period in the spring when muskrats and beaver may be trapped or shot. Others simply set a few traps from the community and compete with other trappers in the immediate area surrounding the community. A recent study carried out in communities in the Lower and Central Mackenzie regions indicated that large numbers of hunter-trappers participated only in the spring hunt for muskrat and beaver.^{1/}

Numbers of Local and Non-Local Trappers, 1970-71

The fur records were examined to obtain an indication of the number of local and non-local trappers in 1970-71 trading furs at the communities of Fort McPherson, Fort Norman and Fort Simpson. Local is used in the sense of trappers resident in the community or living nearby and trapping in the surrounding area.

The 1970-71 records for Fort Simpson reveal 33 trappers from other communities traded into Fort Simpson during the 1970-71 season. Trading was largely confined to local trappers at Fort McPherson with only two Arctic Red River trappers trading at the community. Only local trappers traded at Fort Norman. The amount of fur traded by non-local trappers varies according to price advantage and distance from the home community.

The number of local trappers at Fort Norman dropped from 52 in 1969-70 to 46 in 1970-71. A decrease in numbers from 114 to 108 occurred at Fort McPherson while the numbers at Fort Simpson decreased by 27 from 94 to 67.

In addition to Fort McPherson, Fort Norman and Fort Simpson other fur trade centres such as Inuvik and Aklavik attract non-local trappers. However, the majority sell their furs in home communities.

^{1/} Gemini North, Settlement Council Labour Pools, 1970, Yellowknife, N.W.T.

The Mackenzie Manpower Survey as an Indication of Traditional Activities

The Mackenzie Manpower Survey completed in 1969-70 provides pertinent information on trapper incomes, age groups, time spent in trapping, wage employment. Unfortunately, the survey does not provide a complete coverage of hunter-trappers in the Mackenzie Valley. The returns of 374 male hunter-trappers and eight female hunter-trappers were analyzed and are discussed in the following sector. These returns represent approximately 31 per cent of the total number of trappers in the Mackenzie Valley. The survey coverage was excellent in small communities such as Colville Lake, Nahanni Butte, and Trout Lake where the survey included 80 per cent to 100 per cent of the hunter-trappers. Elsewhere, in locations such as Aklavik and Inuvik, the survey coverage was extremely low and may be used only as an indication of individual participation.

Incomes From Traditional Activities as Indicated by the Mackenzie Manpower Survey, (1969-70) 1/

Eighty-four hunter-trappers in the Lower Mackenzie region out of 150 indicated incomes from traditional activities. Five hunter-trappers had incomes under \$200.00. Forty-six hunter-trappers had incomes ranging between \$200.00 and \$599.00. Twenty-four trappers had incomes ranging between \$600.00 and \$1,500.00. Nine hunter-trappers had incomes over \$2,000.00. Sixty-four hunter-trappers did not provide income information.

In the Central Mackenzie region, 93 out of a total of 103 individuals provided information on incomes from traditional activities. Twenty-nine hunter-trappers had incomes below \$200.00. Forty-two had incomes between \$200.00 and \$599.00. Twelve hunter-trappers had incomes between \$600.00 and \$1,700.00.

1/ The average income for N.W.T. trappers in 1968-69 was \$312.20.
In 1969-70 the average income amounted to \$278.94.

In the Upper Mackenzie region 100 hunter-trappers out of 132 provided information on incomes from traditional activities. Six hunter-trappers had incomes under \$200.00. Seventy-nine hunter-trappers had incomes between \$200.00 and \$599.00. Twenty hunter-trappers had incomes between \$600.00 and \$1,200.00. The individual fur records of hunter-trappers for 1969-70 obtained from the Game Management Service provide a more complete coverage of trapper incomes in the Mackenzie Valley.^{1/} The income ranges provided by the Mackenzie Manpower Survey appear to be substantiated by the complete records on trapper incomes.

Number of Individuals and Time Expended on Traditional Activities

Substantial numbers of hunter-trappers indicated they were engaged in traditional activities for most of the year. A total of 109 hunter-trappers indicated they were engaged in hunting, trapping and fishing for periods from 46 to 52 weeks. Fifty-two individuals followed traditional activities for 25 to 45 weeks of the year. Two hundred and four individuals spent less than 25 weeks in traditional pursuits. Seventeen hunter-trappers gave no indications of the amount of time spent in traditional activities.

In the Central Mackenzie region only 12 hunter-trappers out of 103 were active in traditional activities for 25 to 45 weeks and no individuals were active from 46 to 52 weeks. This is in striking contrast to the Lower Mackenzie region where 20 hunter-trappers were active for 25 to 45 weeks and 35 were active for 46 to 52 weeks. The figures also may be compared with the Upper Mackenzie region where 20 hunter-trappers were active for 25-45 weeks and 74 were active for 46 to 52 weeks.

Age Range, Hunter-Trappers, Mackenzie Valley, 1969-70

According to the Mackenzie Manpower Survey the number of 15-19 year old hunter-trappers is low with only 28 or 7 per cent of the 382 hunter-

^{1/} See Appendix 45, p. 5-112

trappers being in the 15-19 year age range. There were 103 individuals in the 20-29 age group or 27 per cent of the total number of hunter-trappers in the Mackenzie Valley. This appears to indicate limited opportunities for permanent employment or a continuing commitment to traditional activities. One hundred and ninety-eight hunter-trappers or 44 per cent of the total number were in the 30-49 age group. Eighty-three hunter-trappers were listed as being 50 years or older.^{1/}

Wage Income - Trappers

A total of 215 or 57 per cent out of 374 hunter-trappers reported wage incomes. No wage incomes were indicated for the hunter-trappers at Trout Lake. One hundred and five or 49 per cent reporting wage income earned less than \$1,000.00. Ninety-four trappers or 44 per cent of the reported wage incomes were in the \$1,000.00 to \$4,000.00 range. The remainder (7 per cent) reported wage incomes in excess of \$4,000.00.

Earned Income by Source

The following table summarises the current status of trapping as a source of earned income in the Mackenzie Valley. Trapping continues to be an important income source for Indian and Métis hunter-trappers in small communities such as Jean Marie River, Nahanni Butte, Colville Lake where it provided more than 26 per cent of the estimated earned income in 1969-70 for northern residents. It also continues to be important in Aklavik and Wrigley where it formed more than 20 per cent of the total earned income. Elsewhere trapping income represented 4.4 per cent to 18.3 per cent of the estimated earned income.

^{1/} Twenty of these will have retired from the industry by 1975 and an additional 27 will have retired by 1980.

Place of Trapping in the Overall Economy

The Area Economic Surveys of the Department of Indian Affairs and Northern Development have documented the status of the traditional activity base in the Mackenzie Valley in the 1960's. In addition the Makale report on Fort McPherson in 1967 indicated a decline of hunting and trapping as income sources and the relative increases in wage employment in the community for the period between 1961 and 1967.^{1/} The Mackenzie Manpower Survey completed in 1970 indicates this trend has continued.

In 1970, Makale and Associates examined the economy of Fort Good Hope and estimated that 43 per cent of the earned income for resident Indians and Métis in 1969 came from a variety of resource harvesting activities.^{2/}

Table 11 indicates that trapping produces only a small percentage of the total earned income in the Mackenzie Valley. However, the gross value of hunting and trapping in 1968-69, Table 15, indicates that the traditional activities are still important sources of real and imputed income at Fort Good Hope and elsewhere in the Valley. In 1968-69 the estimated gross value of hunting and trapping amounted to \$1,194,525.03.

The total estimated gross value of traditional activities in the Valley amounted to \$1,107,910.65 in 1969-70. By comparison the earnings from wage and self-employment for Indian, Eskimo and Métis amounted to an estimated \$2,465,382.00 based on the 87 per cent coverage of the Mackenzie Manpower Survey.

^{1/} Makale, Holloway & Associates Ltd., Fort McPherson, N.W.T., Planning Report and Development Plan, Edmonton, 1967.

^{2/} Makale, Holloway & Associates Ltd., Planning Report and Development Plan, Fort Good Hope, Edmonton, 1970, p. 24.

TABLE 11
*
COMPARISON OF EARNED INCOME BY SOURCE, MACKENZIE VALLEY COMMUNITIES, 1969-70

	Wages & Salaries	Trapping**	Income Self-Employment	Total Earned Income	Fur As % Earned Income	Wages & Salaries As % Earned Income
<u>Lower Mackenzie region</u>						
Aklavik	\$252,390.00	\$65,855.83	\$ 793.00	\$319,038.83	20.6	79.11
Inuvik	636,662.00	86,373.17	7,044.00	370,079.17	11.8	87.20
Tuktoyaktuk	296,552.00	9,462.50	1,121.00	307,135.50	3.1	96.55
Fort McPherson	244,214.00	20,173.89	307.00	269,694.89	7.5	92.41
Arctic Red	85,915.00	1,408.75	NA	87,323.75	1.6	98.39
<u>Central Mackenzie Region</u>						
Fort Good Hope	81,492.00	8,950.00	NA	90,442.50	9.9	90.10
Colville Lake	14,790.00	5,204.00	25.00	20,019.00	26.0	73.88
Fort Norman	117,465.00	10,861.90	1,700.00	130,026.90	8.4	90.34
Fort Franklin	95,100.00	20,967.99	900.00	116,968.99	17.9	81.30
<u>Upper Mackenzie Region</u>						
Wrigley	33,829.00	8,648.15	NA	42,477.15	20.4	79.64
Fort Simpson	156,887.00	24,114.59	4,800.00	185,801.59	13.0	84.44
Jean Marie River	4,374.00	2,926.50	NA	7,300.50	40.1	59.91
Nahanni Butte	10,900.00	6,475.10	NA	17,375.10	37.3	62.73
Fort Liard	56,106.00	12,783.85	1,020.00	69,909.85	18.3	80.25
Trout Lake	---	---	NA	---	---	---
Fort providence	93,835.00	19,322.10	NA	113,157.10	17.1	82.92
Hay River	259,993.00	12,034.70	2,168.00	274,195.70	4.4	94.82

* Income applies only to Eskimos and Indians and Métis.

** Trapping Income earned primarily by Indian and Eskimo trappers. A small number of Métis and white trappers are included.

Source : Mackenzie Manpower Survey, D.I.A.N.D. and N.W.T. Fur Records.

PART B

HUNTING ACTIVITIES IN THE MACKENZIE VALLEY

Hunting

Hunting continues to be an important source of food for resident groups in the Mackenzie Valley although game harvests have shown some fluctuations and evidence of a general decline during the 1964-70 period. In the Lower Mackenzie region and the Central Mackenzie region there has been a decline in moose and caribou harvests. These declines may be the result of increased wage employment opportunities for hunter-trappers, erratic trends in caribou migrations, etc. Big game harvests have increased slightly in the Upper Mackenzie region.

Table 12

HARVEST OF MAJOR GAME SPECIES

1969-70

<u>Community</u>	<u>Number of Hunters</u>	<u>Total Reported Harvest</u>		
		<u>Moose</u>	<u>Caribou</u>	<u>Black Bear</u>
Aklavik	61	5	423	11
Inuvik	22	10	135	1
Tuktoyaktuk	10	12	60	-
Fort McPherson	31	15	317	6
Arctic Red River	2	6	2	3
Fort Hood Hope	43	67	399	16
Fort Norman	17	27	25	14
Wrigley	32	45	16	29
Fort Simpson	67	157	38	61
Jean Marie River	8	12	8	7
Nahanni Butte	17	37	-	19
Fort Liard	31	99	1	26
Trout Lake	10	20	12	5
Fort Providence	30	35	3	17
Hay River	34	42	40	23
Total	415	589	1,479	238

Source: General Hunting Licences

* Number of hunters reporting having harvested big game in 1969-70.

Note: Fort Franklin returns too incomplete for inclusion in the table.

The big game records, based on general hunting licence returns, for communities in the Mackenzie Valley from 1964-1969 are contained in the appendices. In 1968-69, 245,000 pounds of edible moose meat, 2,216,000 pounds of caribou meat and 27,200 pounds of bear meat were harvested by hunter-trappers.

Moose, caribou and black bear are the major game food species of hunter-trappers in the Mackenzie Valley. Caribou is the most important food species in the Lower Mackenzie region followed by moose and black bear, while moose is the most important species in the Central Mackenzie followed by caribou and black bear in that order. Moose is also the predominant game food species in the Upper Mackenzie region followed in importance by black bear. Caribou are of minor importance due to the small numbers being harvested by hunter-trappers. The numbers of moose, caribou and black bear harvested in the Mackenzie Valley from 1964-1970 are shown in Table 13.

Table 13

MOOSE, CARIBOU, BLACK BEAR HARVESTS
MACKENZIE VALLEY, 1964-70*

<u>Year</u>	<u>Moose</u>	<u>Caribou</u>	<u>Black Bear</u>
1964-65	824	2,353	217
1965-66	678	2,224	251
1966-67	783	1,783	232
1967-68	756	3,558	250
1968-69	700	2,216	272
1969-70 ^{1/}	589	1,479	238

*Big game returns for Fort Franklin not included.

The Porcupine Caribou Herd

The large Porcupine caribou herd ranges from the Peel Plateau to northeastern Alaska, summering in the northern Yukon and Northeastern Alaskan coastal areas and wintering in the Ogilvie Mountain range of the central Yukon and along the Yukon, Northwest Territories boundary.

Hunter-trappers in three communities, Fort McPherson, Aklavik and Old Crow, are dependent on the Porcupine caribou herd as a main source of local food. Inuvik, Arctic Red River, and occasionally Tuktoyaktuk hunters take animals from the Porcupine herd as well.

The Porcupine herd is available to the hunter-trappers at variable intervals. The Fort McPherson hunter-trappers are usually able to exploit this herd during the autumn migration, on its wintering grounds on the Peel Plateau and during the spring migrations northward. The Aklavik hunters hunt the eastern segments of the Porcupine caribou herd during spring, summer and autumn movements along the eastern flank of the Richardson Mountains and on the coastal margin of the Arctic coastal plain as far as the Firth River. The Old Crow hunters take caribou during spring and autumn migrations and during the winter.

The annual variation in kill figures indicates the variation of caribou movements. Large kills occur when the herds are readily accessible. Low kill years generally indicate the absence of caribou close to the settlements rather than a lack of hunter interest.

A deflection of caribou from usual migratory routes during the construction period or the erection of permanent barriers could result in a severe decline in local food sources. There is simply no other food species (moose, sheep) in the area available to be harvested at similar rates.

Table 14

CARIBOU HARVEST, 1961-70

<u>Year</u>	<u>Fort McPherson</u>	<u>Aklavik</u>	<u>Inuvik</u>	<u>Arctic Red River</u>
1961-62	100	319	42	25
1962-63	590	580	29	35
1963-64	395	621	44	1
1964-65	509	820	143	46
1965-66	446	647	52	67
1966-67	459	477	72	-
1967-68	1,130	996	328	23
1968-69	742	541	179	31
1969-70	317	423	135	2

* Fort McPherson hunters took an additional 74 caribou in the Yukon.

Recent estimates of the Porcupine herd indicate approximately 110 - 130 thousand animals. The reported total kill by Aklavik, Fort McPherson, and Old Crow hunters amounted to an estimated 1,312 in 1969-70.^{1/} Pending more accurate censuses of the herd, and harvest statistics, the harvest appears to be within permissible limits. However, this could change with pipeline construction and road developments such as the Dempster Highway making the herd readily accessible to hunters. In recent years, Central Yukon hunters have taken large numbers of animals from the Porcupine herd during October and November when the herd is moving to wintering quarters. The Dempster Highway crosses known Porcupine caribou herd migration routes on the Peel Plateau. The Canadian Wildlife Service, Northwest Territories Game Management Service, and Yukon Game Branch are participating in research directed towards instituting programs to manage the herd. The Yukon Game Branch initiated hunting controls along the Dempster Highway in 1972 to prevent over-exploitation of the herd by road hunters.

^{1/} Old Crow hunters harvested 478 caribou in 1969-70. The reported harvest by Northwest Territories hunter-trappers is estimated by the Game Management Service to be 25 per cent below the actual harvest.

Other Caribou

Hunters in communities upriver from the Mackenzie Delta are dependent on other caribou herds. Woodland caribou are found sporadically in small numbers through the Valley, while barren-ground caribou occur east of the Mackenzie River in the vicinity of Great Bear Lake. Barren-ground caribou are of major importance to hunter-trappers in Colville Lake, Fort Good Hope, Fort Franklin and Fort Norman.

Arctic Red River hunters also occasionally take woodland caribou in the Travaillant Lake area. The Fort Good Hope and Colville Lake hunters take both woodland and barren-ground caribou. The Fort Franklin hunters take woodland caribou in the area between the Mackenzie River and Great Bear Lake and barren-ground caribou in the Great Bear Lake area. The Fort Norman hunters have traditionally harvested woodland caribou in March along the North Redstone River. During the past two years they have been encouraged by the Game Management Service to hunt barren-ground caribou in the Great Bear Lake area to avoid depletion of limited woodland caribou stocks.

Caribou taken by the Wrigley, Fort Liard, Nahanni Butte and Trout Lake groups are predominantly woodland caribou found in small herds in the Mackenzie lowlands.

Organized Caribou Hunts - 1966-72

Recently organized hunts from Mackenzie Valley communities have both supplemented individual hunter efforts as well as providing caribou meat for sale in the communities. Hunter-trappers have been encouraged by the Game Management Service, N.W.T. to harvest barren-ground caribou from the herds north and east of Great Bear Lake. The returns have been included in the big game takes of the individual communities. In 1971-72, 440 caribou were harvested by hunter-trappers at a gross revenue of \$25,000.00 in the Inuvik region.

Less Important Game Species in the Mackenzie Valley

Dall sheep, mountain goats and grizzly bears are much less important game species than moose, caribou or black bear although there are local variations. In recent years, Aklavik hunter-trappers have harvested significant numbers of Dall sheep in the Richardson Mountains. Very small numbers of mountain goats and grizzly bears have been harvested by hunter-trappers in the Valley from 1964-70. Deer and bison do not normally occur in the Valley.

Secondary Food Sources

Birds are a secondary, but important food source. Migratory waterfowl such as geese and ducks are important food sources, particularly in the Lower Mackenzie region. The returns are listed in the appendices.

Beaver, muskrat and lynx are important food sources for hunter-trappers. Other fur species may or may not be eaten depending on need. Less edible species are used as dog foods.

No statistics are available for snowshoe rabbits but these form an important supplementary food source subject to cyclical variations.

Game Returns

Game returns for Fort McPherson, Fort Norman, Fort Simpson, Trout Lake and Jean Marie River general hunting licence holders for 1969-70 were examined to obtain some indication of the numbers of hunters taking game and the amounts of big game harvested by individual hunters. The big game harvest by individual hunter-trappers for these Mackenzie Valley communities is shown in Appendices 33 and 37.

In 1969-70, 31 hunters out of a total of 149 of those holding general hunting licences issued in Fort McPherson reported taking big game in the N.W.T. The major game species taken was caribou with 29 of the hunters reporting having taken a total of 317 caribou. Ten of the hunters reported

taking a total of 14 moose. Only eight black bear were taken. Ten hunters reported taking both moose and caribou. Both moose and black bear constitute secondary game food species for the Fort McPherson hunters. In addition, 14 hunters obtained eight moose, 74 caribou, two grizzly and one black bear in the Yukon.

From Fort Norman and Norman Wells, 17 hunters out of a total of 79 general hunting licences reported harvesting 27 moose, 25 caribou, 14 black bear and two mountain sheep. Thirteen of the hunters took 27 moose, while nine of the hunters reported taking both moose and caribou. Moose is the most important game species in terms of both numbers harvested and edible food production.

Sixty-seven hunters from Fort Simpson out of 152 general hunting licences issued reported taking a total of 157 moose, 32 caribou, 50 black bear, two mountain sheep, one goat and one bison. Sixty-seven hunters accounted for the 157 moose, while only 12 of the hunters reported taking caribou. Eleven hunters reported taking moose and caribou. Only six hunters reported taking moose, caribou and black bear.

The individual game harvests for Trout Lake for 1969-70 indicate that hunter-trappers in small isolated communities do not necessarily harvest large amounts of big game. Ten hunters harvested a total of 20 moose, 12 caribou and five black bear. Six hunters harvested both moose and caribou. Only three hunters harvested all three species. Eight Jean Marie hunters harvested 12 moose, eight caribou and seven black bear. Three hunters harvested moose, caribou and black bear.

Only a small number of hunter-trappers in the various communities appear to be harvesting quantities of game consistent with a full dependency on land resources (six hunters in Fort McPherson, three in Fort Norman Wells, 13 in Fort Simpson, two in Trout Lake and one in Jean Marie River).

Estimated Food Requirements

Indian families in the Fort Liard area, N.W.T. dependent on traditional activities are estimated to require four moose per family per year, plus additional game (bear, birds) fish and meat of various fur species. Indian hunters in Central Alaska are reported to require three moose per family per year as well as other game.^{1/} In areas where caribou is the major food species, 15-20 caribou plus additional game foods, etc. would appear to be the food requirement for families dependent on traditional activities.

Imputed Values of Game and Fur Meats

Some inherent difficulties are associated with imputing values to game and fur species. Within the traditional economy, meat has been shared with relatives and friends and bartered to others. The quantity of meat bartered or sold in the Mackenzie Valley by individual hunter-trappers has been small because most hunter-trappers harvest game primarily to meet their own needs. Individual game takes throughout the Valley in 1969-70 revealed that few hunters had harvested game surplus to their own needs. Organized caribou hunts have supplemented individual game takes and surplus meat has been sold in the communities. See Appendix 31.

In attempting to impute a value to game and fur meats 75 cents a pound has been applied to moose and caribou in conjunction with estimates of the average amounts of edible meat.^{2/} Fifty cents a pound has been applied to bear, fur bearers, and wildfowl. Production costs for moose and caribou meat have been estimated at 14-16 cents a pound. J.K. Naysmith in Man and

^{1/} Education Systems Resources Corporation, A Study of the Impact of the Proposed Trans Alaska Pipeline on the Alaska Native Population, Arlington, Virginia, 1971, page 79.

^{2/} Caribou and moose meat are lower in calories (120-123), than grade (225) or prime beef (428). Protein content per 100 grams is as follows: 27.22 grams fresh caribou, 25.01 grams fresh moose, while fat content is 4.7 grams for caribou and 0.9 grams for moose.

the Land estimated caribou were worth \$100 each to Old Crow hunter-trappers while J. Kelsall in Canadian Wildlife Service, 1971, estimated the value of caribou in the Keewatin to be \$60 per animal.^{1/} Other writers have simply continued to use 50 cents a pound, a value first used in the 1960's. The price of 75 cents a pound is more reasonable in terms of equating game foods with imported meats. This may be conservative in view of rising prices for imported meats such as beef, pork and fowl.

Adjustments have been made for utilization of various species (e.g. bear is given a lesser food preference rating and lower utilization, 100 pounds as against 250 pounds average weight). The estimated gross total value of meat production from hunting in 1968-69 amounted to \$398,640.53 and hunting and trapping combined, \$600,514.18.

A value of \$25 has been assigned to moose hides while \$5 has been assigned to caribou hides. Many moose and caribou hides are not utilized for a variety of reasons such as location, the season in which the animals are taken and a decline in interest in tanning hides.

Some recent examples are available showing sales of surplus foods between communities. In December, 1970, Fort Good Hope trappers sold surplus caribou meat to the co-operative at Fort Norman. In the same year, Fort Franklin fishermen sold 5,000 lbs. of fish surplus to their own requirements at Fort Norman. However, there is no established or regular system of inter-community sales of local foods (e.g. game meat, fish) because surpluses occur infrequently.

Game meat constitutes an extremely important food source for low income hunter-trappers. The importance of hunting in terms of food production is frequently underestimated in the Mackenzie Valley and any developments which infringe upon this activity by northern residents should be carefully regulated and controlled in order not to interfere with these activities or deplete the available resources.

^{1/} Naysmith, J., Canada North, Man and The Land, D.I.A.N.D. Ottawa, 1971, p. 21, Canadian Wildlife Service, 1971 Department of the Environment, p. 47.

Gross Value of Traditional Activities (Hunting and Trapping)

An estimate has been made of the gross value of hunting and trapping in the Mackenzie Valley in 1968-69, see Table 15. The revenues obtained from trapping have been derived from local fur sales and consignment sales. The value of hunting is based on average edible meat weights for various species and reasonable dollar values for meat and hides.

In 1969-70 the gross value of local fur sales and hunting in the Mackenzie Valley amounted to \$857,920.65 a decline from \$1,113,156.43 in 1968-69.

Future Development

The development of sports hunting and fishing facilities for tourists by Indian, Métis and Eskimos could become an important source of revenue for native people. This would of course, be dependent on accurate resource surveys on a regular basis to prevent conflict between development of sports facilities and local food needs.

TABLE 15

GROSS VALUE OF TRADITIONAL ACTIVITIES 1968-69*

Community	Local Fur Sales	Edible Meat	Big Game Meat	Birds	Hides	Bear Hides	Total
Aklavik	\$ 99,706.76	38,179.00	54,037.50	1,512.55	3,530.00	15.26	\$ 196,981.07
Inuvik	127,002.55	59,948.00	13,425.00	2,289.95	740.00	-	203,405.50
Tuktoyaktuk	8,001.90	1,473.15	19,237.50	5,813.35	1,310.00	-	35,835.90
Fort McPherson	72,603.20	29,299.00	60,675.00	1,291.25	4,110.00	122.08	168,100.53
Arctic Red River	8,879.39	2,523.50	5,587.50	293.80	430.00	76.30	17,790.49
Fort Good Hope	19,077.45	2,752.50	39,300.00	1,279.95	3,010.00	320.46	65,740.36
Fort Norman	11,070.50	11,355.00	34,162.50	1,190.95	2,472.00	335.52	60,586.47
Fort Franklin	23,222.05		13,763.50	1,150.00	1,090.00	-	39,225.55
Wrigley	11,700.01	23,430.00	16,912.75	450.00	1,225.00	213.64	53,931.40
Fort Simpson	28,489.22		43,225.00	2,584.33	3,975.00	1,022.42	79,295.97
Nahanni Butte	10,220.50	4,625.00	7,942.50	-	650.00	213.64	23,651.64
Fort Liard	11,670.20	3,900.50	32,737.00	789.25	2,720.00	773.00	52,589.95
Fort Providence	16,081.55	4,368.00	15,862.50	1,861.70	1,205.00	625.66	40,004.41
Hay River	32,934.45	20,020.00	19,162.50	2,102.70	1,355.00	442.54	76,017.19
Total	\$480,659.73	202,011.15	341,868.25	22,618.78	32,872.00	4,160.52	\$ 1,113,156.43

Additional revenue major fur exports _____ \$81,393.24

Total Estimated returns _____ \$1,194,525.03

* Value to hunter-trappers. Does not include value of sea mammal
harvests, Inuvik, Tuktoyaktuk or Aklavik.

Table 16

GROSS VALUE

HUNTING, TRAPPING, FISHING 1969-70

Lower Mackenzie Valley

Estimated Value Game Meat	\$ 187,470.00
Estimated Value Fur Meat Production	48,337.00
Estimated Value of Hides	<u>6,306.29</u>
Total Value	<u>\$ 242,113.29</u>

Central Mackenzie Valley *

Estimated Value Game Meat	\$ 60,876.00
Estimated Value Fur Meat	24,919.00
Estimated Value Hides	<u>4,964.70</u>
Total Value	<u>\$ 90,759.70</u>

Upper Mackenzie Valley

Estimated Value Game Meat	\$ 133,037.60
Estimated Value Fur Meat	61,899.00
Estimated Value Hides	<u>14,537.24</u>
Total Value	<u>\$ 209,473.84</u>

Estimated Total Gross Value	\$ 542,346.83
Value of Local Fur Trade **	315,563.82
Estimated Value Domestic Fishing	<u>\$ 250,000.00</u>
Estimated Total Value ***	<u>\$ 1,107,920.65</u>

* Does not include Fort Franklin

** Value to hunter-trappers

*** Does not include value of sea mammals, seals and whales.
harvested by hunter-trappers from Tuktoyaktuk, Aklavik
and Inuvik

PART C

CURRENT STATUS OF TRADITIONAL ACTIVITIES - OLD CROW

Old Crow

A broadening of the economic base in Old Crow in recent years appears to have resulted in a general decline in the traditional activities of hunting, trapping and fishing.

There has been an increase in Indian family income ranges in Old Crow from 1958-1969. This has been due to an expansion of government services, local participation in airstrip construction and maintenance, the establishment of a co-operative and oil and gas exploration in the surrounding area. Old Crow receives a scheduled air service. The Department of Indian Affairs and Northern Development has encouraged younger adults to seek employment in mining developments in the Central Yukon such as Anvil, Clinton Creek. As a result of the increasing diversification of the economic base, dependence on the traditional activities has shown a decline.

TABLE 17

INDIAN FAMILY INCOME RANGES, OLD CROW, 1958-69

<u>Income Range</u>	<u>1958 No. of Families</u>	<u>1967 No. of Families</u>	<u>1969 No. of Families</u>
- \$1,000	16	17	12
1,000 - 1,999	10	5	3
2,000 - 2,999	-	-	1
3,000 - 3,999	2	1	2
4,000 - 4,999	-	1	1
5,000 +	-	-	1

Source: D.I.A.N.D.

Trapping

The Old Crow trappers operate in a large open trapping^{1/} area in the northern Yukon and receive little or no competition from other trappers and hunters. Aklavik and Fort McPherson hunter-trappers are active in eastern part of the Richardson Mountains and on the Peel Plateau, but there is no overlap in general resource areas. Non-resident big game hunting and resident Indian and non-Indian hunting-trapping activities in the Central Yukon do not extend into the Old Crow resource area.

The annual fur take reports (1962-63 to 1970-71) for Old Crow indicate a decline in fur takes for all species. Elsewhere, fur takes in the Mackenzie Valley, for example, have not shown this trend towards an absolute decline. The fact that returns for all species have declined appears to indicate a decline of interest in trapping. When some fur species show a decline due to cyclical trends or other factors, trappers normally turn to other available species.

Table 18

TOTAL ESTIMATED VALUE OF FUR TAKEN, OLD CROW AREA, 1969-70*

<u>Species</u>	<u>Value</u>
Beaver	\$ 12.68
Fox, Cross	25.54
Lynx	47.82
Marten	286.80
Mink	12.34
Muskrat	822.80
Weasel	8.20
Wolverine	47.00
Squirrel	5.70
	<u>1,268.88</u>

* Value based on average values of the Yukon Fur Returns, D.B.S. catalogue - 1969-70

^{1/} Open trapping area - used by a number of trappers in preference to individual trapping areas.

TABLE 19

FUR TAKE, OLD CROW, 1962-71

<u>Species</u>	<u>62-63</u>	<u>63-64*</u>	<u>64-65**</u>	<u>65-66</u>	<u>66-67</u>	<u>67-68</u>	<u>68-69</u>	<u>69-70</u>	<u>70-71</u>
Beaver	20	--	37	12	98	47	4	1	9
Fox, Cross	--	--	--	--	2	--	--	2	--
Fox, Red	15	22	2	3	2	1	2	--	7
Lynx	3	18	17	15	15	1	7	2	20
Marten	298	378	142	27	91	72	124	30	30
Mink	147	88	14	10	12	7	29	2	24
Muskrat	16,687	13,072	2,049	11,132	13,324	11,211	9,183	968	4,404
Otter	--	--	--	--	1	1	--	--	--
Weasel	159	138	38	10	46	49	30	20	5
Wolverine	--	--	1	1	--	--	--	1	3
Wolf	--	1	--	--	2	2	1	--	5
Squirrel	31	7	--	4	--	2	7	19	--
Seal	--	--	4	--	--	--	--	--	--

* One bear reported 1963/64

** One bear reported 1964/65

Source: Yukon Game Branch, Whitehorse, Yukon Territory

Both the value of the 1969-70 fur take and the range of trapper incomes for the period are low. There is no evidence to suggest there has been a large scale die-off or disappearance of various fur species. The low fur take and low incomes indicate a major decline in trapping as a full or part-time activity. In 1962-63, A. Tanner reported an average trapping income range of \$480 for Old Crow.^{1/} In 1969-70 16 out of 20 trappers earned less than \$50.00. Only one trapper approached the earlier average income with earnings of \$441.49.

Table 20

INCOME RANGE FROM TRAPPING, OLD CROW TRAPPERS, 1969-70

<u>Income Range (Dollars)</u>	<u>Number of Trappers</u>
450 - 499	-
400 - 449	1
350 - 399	-
300 - 349	-
250 - 299	-
200 - 249	1
150 - 199	1
100 - 149	-
50 - 99	1
49 or less	16

Based on average fur values for the Yukon 1969-70

The estimated incomes for hunter-trappers from traditional activities in 1969-70 are shown in Table 21.

^{1/} Tanner, A. Trappers, Hunters and Fishermen, Northern Co-ordination Research Centre, D.I.A.N.D., Ottawa, 1966, p. 19, 23.

TABLE 21
GROSS VALUE INDIVIDUAL HUNTING AND TRAPPING ACTIVITIES
OLD CROW, 1969-70 *

Individual Hunter- Trapper	Fur Values	Imputed Food Value Assigned to Furbearers	Imputed Food and Hide Value Assigned To Moose and Caribou	Bear	Birds	Estimated Income
1	\$ 34.00	\$ 20.00	\$ 3,475.00	-	25.80	\$ 3,554.80
2	17.00	10.00	1,279.50	-	4.95	1,311.45
3	--	--	2,247.50	-	4.95	2,252.45
4	--	--	742.75	-	--	742.75
5	.85	.50	1,600.00	-	.90	1,602.25
6	--	--	2,174.00	-	--	2,174.00
7	39.88	16.00	767.50	-	--	823.38
8	--	--	320.00	-	--	320.00
9	1.70	1.00	395.00	-	.90	398.60
10	--	--	3,200.00	-	--	3,200.00
11	--	--	560.00	-	--	560.00
12	441.49	250.00	1,600.00	100.00	--	2,391.49
13	27.28	--	2,400.00	50.00	--	2,477.28
14	28.68	--	480.00	-	--	508.68
15	19.12	--	--	-	5.50	24.62
16	--	--	3,200.00	-	--	3,200.00
17	86.61	.50	640.00	-	1.75	728.86
18	21.25	12.50	3,687.50	-	11.00	3,732.25
19	--	--	1,600.00	-	--	1,600.00
20	--	--	287.50	-	--	287.50
21	166.83	47.50	2,287.50	-	--	2,501.83
22	46.54	5.00	2,000.00	-	--	2,051.54
23	44.06	1.50	1,760.00	-	--	1,805.56
24	219.88	--	1,260.00	-	--	1,479.88
25	38.04	--	800.00	-	--	838.04
26	38.94	45.00	1,487.50	-	--	1,571.44
27	12.68	15.00	1,200.00	-	--	1,227.68
28	10.38	--	80.00	-	6.00	96.38
29	19.94	--	--	-	--	19.94
30	--	--	480.00	-	--	480.00
31	--	--	480.00	-	--	480.00
32	--	--	480.00	-	--	480.00
33	7.40	--	--	-	--	7.40
Total	\$1,322.55	\$424.50	\$42,971.25	\$150.00	\$61.75	44,930.05

* Values of 75 cents a pound applied to caribou and moose, 50 cents a pound to bear, edible fur bearers and birds - average weights used in calculations.

Hunting

Although game statistics are more limited, hunting does not appear to have declined as much as trapping. Hunting is generally more attractive than trapping due to the large amounts of fresh meat which can be harvested if hunters intercept caribou migrations (and the excitement of the chase). Also, hunting does not require routine work such as the patrolling of traplines in adverse weather.

Table 22

GAME RETURNS, OLD CROW, Y.T

<u>Species</u>	<u>1963-64</u>	<u>1964-65</u>	<u>1969-70</u>
Black Bear	n/a	3	2
Grizzly Bear	n/a	2	1
Caribou	706	769	478
Moose	10	7	17
Wolves	n/a	7	1
Ptarmigan	196	12	50
Ducks	155	110	16
Geese	15	3	3

Source: General Hunting Licence returns, Yukon Territory Game Branch, Whitehorse.

The Old Crow hunter-trappers hunt in a large area between 66° to 68° north and 136° to 141° west bounded on the east by the Bell and Eagle rivers and the Yukon-Alaska boundary on the west. The Porcupine river provides access to hunting and trapping areas and is a major fish source. East-west pipeline routing north or south of the Porcupine River would cross important caribou migration routes.

Table 23 indicates hunter success rates in taking caribou and moose.

TABLE 23

CARIBOU TAKE, OLD CROW HUNTERS, 1969-70*

<u>Range of Number of Kills by Individual Hunters</u>	<u>Number of Hunters</u>
40 - 44	3
35 - 39	-
30 - 34	2
25 - 29	3
20 - 24	7
15 - 19	3
10 - 14	1
5 - 9	6
4	3
3	1
<u>2</u>	<u>-</u>
478	29

<u>Range of Number of Moose Kills by Individual Hunters</u>	<u>Number of Hunters</u>
4	1
3	1
2	3
<u>1</u>	<u>4</u>
17	9

* Based on individual licence returns

Twenty-nine hunters out of thirty-eight reported harvesting caribou in 1969-70. Nine hunters harvested seventeen moose. Only eight hunters harvested both moose and caribou.

Table 24 indicates fish take by Old Crow fishermen. There is no commercial fishing and the fish take is consumed locally. The decline in fishing appears to be related to a reduction in the use of sled dogs in favour of ski-doo's and increased wage employment with the subsequent purchase of non-local foods.

Table 24

OLD CROW FOOD FISHERY STATISTICS, 1967 TO 1970

<u>Year</u>	<u>Chinook</u>	<u>Chums</u>	<u>Coho</u>	<u>Whitefish</u>	<u>Other</u>
1967	43	11,768	--	1,124	2,001
1968	38	10,000	261	2,550	2,451
1969	27	3,377	34	734	657
1970	8	620	--	195	368

Source : R.C.M.P. Fishery Reports, Old Crow.

The Old Crow hunter-trappers are now relying primarily on hunting activities as a source of income from the traditional sector.^{1/}

It is not possible to predict whether the decline in traditional activities will continue at Old Crow. However, it is assumed that further declines will occur during pipeline construction activities in the northern Yukon.

^{1/} Income in the sense of food production for personal use.

PART D

DOMESTIC FISHERIES

The domestic fisheries in the Mackenzie Valley continue to be an important aspect of the traditional activity base. Domestic fishing is an inexpensive form of food production requiring small amounts of capital and equipment. It is a major source of protein during the summer when trapping has ceased and hunting is difficult. The autumn and winter fisheries are also important food sources for hunter-trappers and their dogteams.

Gill netting is the chief means of harvesting fish. Fish are preserved by smoking and drying in the summer, pitting and hanging in the autumn and freezing in the winter. Fish are also stored in community freezers.

Various estimates have been given for domestic fisheries in the Mackenzie Valley. Indians in the Mackenzie Valley communities were estimated to have harvested 915,390 pounds of fish for domestic use in 1961-62. In 1964, an estimated 2,197,000 pounds of fish were harvested for domestic purposes from Hay River to Aklavik.^{1/} The Mackenzie Delta and Peel River domestic fisheries were documented by D. Bissett in 1967. D. Villiers noted a decline in domestic fisheries in the Central Mackenzie area in 1967. G. Higgins was able to provide some limited data on domestic fisheries in the Fort Simpson - Fort Liard areas in 1968.^{2/}

^{1/} Sinclair, S. et al, Physical and Economic Organization of the Fisheries of the Mackenzie District, N.W.T. Fisheries Research Board, Ottawa, 1967, p. 55.

^{2/} Higgins, G. The Lower Liard Area; An Area Economic Survey, D.I.A.N.D. 1968, p. 139.

In 1972, a survey was carried out by the Economic Staff Group and the Fisheries Development Section and Game Management Service of the Department of Industry and Development, N.W.T. to locate domestic fisheries and obtain some estimate of production in the Mackenzie Valley. The domestic fishery locations are shown in Tables 46 - 50 in the appendices. The Peel and Mackenzie Rivers (including the Mackenzie Delta) are important fish sources. The Fort McPherson and Arctic Red River hunter-trappers continue to fish in localities noted earlier in 1965-66. The Fort Good Hope hunter-trappers have fish camps at a number of localities on the Mackenzie River as well as lake fisheries. The Fort Norman, Wrigley, Fort Simpson, Jean Marie River and Fort Providence hunter-trappers rely on Mackenzie River fisheries as well as a number of lake fisheries.

The estimates of domestic fish harvests for the western end of Great Slave Lake appear to be more consistent with hunter-trapper requirements, while those for the Fort Simpson, Fort Liard areas appear low.^{1/} The data on fish camp locations, seasonal use and number of families provide a basis for more accurately delimiting domestic fish production but this would require a full-scale research program carried out over a duration of two to three years. We estimate the annual requirements of a hunter-trapper family of five using a dogteam would be 9,000 lbs. of fish in addition to game and fur meats.

Pipeline Development

Tentative recommendations for the protection of fish resources in the Mackenzie Valley during pipeline construction are contained

^{1/} Appendix Table 46, p. 5-122.

in a report of the Fisheries Service, Department of the Environment, 1972.^{1/}

The existing domestic fisheries noted in our report should be included in any protective measures instituted to protect the fish resources of the Mackenzie Valley. Highway development will open some fishing locations to possible commercial and/or sports fishing and specific domestic fishing areas should be reserved for the use of hunter-trapper groups. In addition, we believe hunter-trapper groups should be assisted technically and financially to develop both commercial fisheries and sport fisheries for tourists if sufficient fish stocks are located.

^{1/} Hatfield, C.T. et al Fish Resources of the Mackenzie River Valley. Interim Report 1, Volume 1, 1972, Fisheries Service, Department of the Environment, Winnipeg, Manitoba 1972, pp. 209-227.

TABLE 25

FISHING LOCALITIES OF IMPORTANCE TO VARIOUS COMMUNITIES*

Lower Mackenzie Region

<u>Fishing Locality or Area</u>	<u>Community</u>
Mackenzie Delta, Whitefish Station, Shingle Point	Aklavik, Inuvik, Fort McPherson
Rat River, Fish Hole	Aklavik, Fort McPherson
Peel River, Neyando Lake, Husky Lake, West Channel, Peel Channel	Fort McPherson
Mackenzie River and tributaries, Arctic Red River, Tree River Travaillant Lake	Arctic Red River

Central Mackenzie

Mackenzie River and tributaries, Hare Indian River, Aubrey Lake, Colville Lake, Loon River	Fort Good Hope
Mackenzie River and tributaries, Bracket Lake, Mahoney Lake, Kelley Lake, Tate Lake	Fort Norman

Upper Mackenzie

Fish Lake	Wrigley
Sibbeston Lake, Mackenzie River and tributaries	Fort Simpson
Jean Marie River, Mackenzie River and tributaries	Jean Marie River
Trout Lake, Island River	Trout Lake
Tathlina Lake, Kakisa Lake, Buffalo Lake, Horn River	Fort Providence, Kakisa Lake

* Domestic fisheries along the Mackenzie are usually carried out at tributary river or stream mouths or eddies where debris and currents will not destroy nets.

PART E

PIPELINE CONSIDERATIONS AND CONCLUSIONS

Pipeline Impact on Fur, Game,
Waterfowl and Fish Resources
and Traditional Activities

The impact of pipeline on renewable resources important to the traditional economy (hunting, trapping and domestic fishing) may never be fully determined by either government research programs or those of the private sector. Specific guidelines and precautions based upon pertinent research may ameliorate many of the possible detrimental effects.

The following critical issues have not been resolved:

1. Effect of pipeline construction and operation on big game populations essential to hunter-trappers.
2. Effect of pipeline construction and operation on important fur-bearers, waterfowl and fish.

Taking into consideration the predicted levels of activity, high noise volumes during construction, heavy air and ground traffic along the pipeline "corridor", and access and service roads, it may be assumed there will be a general disturbance of game and fur species particularly during the two to three years of construction. The long term real effects of this disturbance are unknown by either government or private industry.

Part of the impact can be avoided by pipeline routings away from critical wildlife areas. Interference with the Porcupine caribou herd may occur along the routings west of Fort McPherson because of the extensive north-south migrations of this herd. Seasonal construction to avoid interference with migration and methods of overcoming potential barriers to caribou migration (e.g. burial of pipeline, raised crossings)

may provide solutions to this problem.

Serious impacts on wildlife resources could affect the traditional economy through a reduction of the resource base. On the other hand it is anticipated that hunter-trappers will use pipeline access and service roads and traditional activities may be extended. Access and service roads would also permit an extension of necessary resource management programs (e.g. wildlife management programs).

Pipeline Routings in Respect to
Traditional Resource Harvesting Areas

Proposed pipeline routings and their relationship to areas used by hunter-trappers in hunting, trapping and fishing have been mapped (Map 1).^{1/} One hundred and seventy-six areas of varied importance in traditional activities have been identified.

The establishment of specific regulations to provide maximum protection for game, fur and fish during pipeline construction and operation will be necessary to ameliorate many of the potentially harmful effects. Regulations and stipulations based on sound research should be discussed and mutually agreed upon by hunter-trappers resident in the pipeline corridor area, Game Management personnel of the Territorial Governments and the Canadian Wildlife Service prior to being finalized.

Some valid arguments may be advanced for compensation for hunter-trappers whose hunting areas, traplines and trapping areas and fishing sites are permanently modified through the construction of pipelines, service roads or highways.

Various programs of the Department of Industry and Development of the N.W.T. government have been directed towards assisting hunter-trappers to fully utilize areas now being hunted, trapped and fished and to expand current activities into areas which were formerly in use. Possible future developments of this nature should be taken into account.

^{1/} Map contained in end pocket.

The following deals with the proposed pipeline routings of various pipeline study groups in the private sector.

Main Pipeline Route

The proposed gas pipeline routing crosses thirty-three areas of some importance to subsistence economics in the Mackenzie Valley. Four areas have been distinctly identified as being of some importance in hunting. The remainder have been identified as primarily trapping areas. Thirteen of the areas are considered to be well-utilized. Eight are little used. Six areas have been identified as spring trapping areas (beaver and/or muskrat): the remainder are used for trapping a variety of fur species.

The Yukon and Alaska Coastal Alternative

The proposed pipeline routing parallels caribou migrations in the spring and autumn from the Peel Plateau north to the Arctic Coast along the eastern flank of the Richardson Mountain and west along the Arctic coastal plains. Along the lower reaches of the Peel River and the western border of the Mackenzie Delta it crosses important hunting and trapping areas of Aklavik and Fort McPherson hunter-trappers.

East Mackenzie Alternative

There are fourteen subsistence areas included in the East Mackenzie alternative routing. Five areas are trapped occasionally or by one trapper. Five areas are used for day line trapping by Arctic Red River trappers.

Mackenzie Mountain Alternative

Twenty areas are encroached on or passed through by the Mackenzie Mountain alternative routing. Six areas are either no longer in use or only occasionally used.

No 2 Mackenzie Alternative

The number two Mackenzie alternative crosses three subsistence areas, which are not extensively used at the present time by Fort Good Hope, Fort Norman and Norman Wells hunter-trappers.

The Mackenzie Highway

The Mackenzie Highway routing crosses a number of resource areas used by Fort Simpson, Wrigley, Fort Norman, Fort Good Hope and Arctic Red River and Inuvik hunter-trappers. Fourteen areas are used for trapping while one area is used for hunting. The specific areas are listed in the appendices. These areas have already been crossed by the Fort Simpson to Inuvik winter road and the C.N.T. line and some habitat change has already occurred along these routes.

Pipeline Service Roads

The use of pipeline service roads for hunting, trapping and fishing access should be subject to both company and Game Management regulations. Access could be permitted on a restricted basis and hunting of migrating caribou herds supervised by Game Management personnel.

Compressor Stations - Lower Mackenzie Region

Proposed compressor stations sites on the Arctic coastal plain would be located on Porcupine caribou migratory routes. The Arctic coastal plain (Yukon coast) is also a staging area for waterfowl in summer. Hunters from Aklavik and Inuvik reach the Firth River on August caribou hunting

activities. Winter traplines are occasionally extended to Herschel Island along the Arctic Coast from Aklavik and Inuvik.^{1/} It is assumed that hunting by staff at compressor stations could be controlled by company regulations and game and fish ordinances.

Compressor stations west of Fort McPherson and south or north, of Old Crow would be located across north-south migration routes of the Porcupine caribou.

A compressor station if in the vicinity of the Rat River would be located on caribou migratory routes and also in an area hunted, trapped and fished by Aklavik and Fort McPherson hunter-trappers.

Two compressor stations south of Arctic Red River would be located in good moose and beaver habitat.

It is anticipated that compressor stations would not radically affect wildlife habitat with the possible exception of the immediate areas of the station sites. It may be necessary to control activities of compressor station personnel. Waste disposal procedures should be such that grizzly and black bears would not become an unnecessary menace by being attracted to the sites.

Central Mackenzie Compressor Stations

Compressor station sites on the west side of the Mackenzie River in the Central Mackenzie region are located relatively close to the river and as such are located in hunting, trapping and fishing resource areas of the Fort Good Hope, Fort Norman and Wrigley residents. The proposed compressor station in the Fort Good Hope area would be located in good beaver habitat and close to an important woodland caribou wintering ground. A proposed compressor station near Norman Wells would be located in a waterfowl staging area.

^{1/} See resource utilization map, in end pocket, indicating areas hunted and trapped by resident groups.

The compressor stations in the Wrigley area would be on the eastern border of a large woodland caribou wintering grounds.

Upper Mackenzie Region

A proposed compressor station site southwest of Fort Simpson on the Liard River would be located in a beaver trapping area used by the Fort Liard Group. The remaining proposed sites do not appear to be located in resource areas or areas currently used by hunter-trappers or noted as wildlife habitat.

Compressor Stations - East Side Mackenzie River

A series of compressor stations in close proximity to the Mackenzie Highway would present less problems in terms of resource management than isolated sites along the west side of the Mackenzie. The traditional activity areas have already been designated under the Mackenzie alternate and the Mackenzie Highway routing. Employment of northern residents from Valley communities could simplify many of the problems of non-local infringement on traditional areas.

Less vulnerable big game habitat areas appear to be encroached upon by an east side pipeline routing both in terms of the pipeline and compressor stations.

Compatibility of Pipeline Construction and Operation Employment with Normal Hunter-Trapper Activities

The majority of hunter-trappers in the Mackenzie Valley are partially dependent on wage employment. It is assumed that the nine-year projected pipeline program would result in an increased involvement in wage employment with the possible exception of the small segments now fully dependent on the land and older age groups 50-65. It can be assumed that older hunter-trappers would fill some of the employment gaps created in community labour forces through entry of the 20-49 year age groups into pipeline employment.

A major reduction in traditional activities, particularly trapping, might be expected to occur during Years 3, 4 and 5 of the pipeline program due to the recruitment of 20-49 year age groups. Younger age groups (15-19) are either currently committed to education programs or relatively unskilled in traditional activities. A decline in participation rates might occur in hunting activities although pipeline workers who hold general hunting licences may hunt during rest periods.

The high volume of construction activity and transportation might prove to be a deterrent to hunter-trappers in using resource areas close to the pipeline "corridor", although it is anticipated Fort McPherson hunter-trappers would use pipeline access roads to reach the East Porcupine caribou herd during its migration and wintering periods on the Peel Plateau.

A decline in hunting and trapping productivity would result in an increased demand for imported meats and other staple foods.

We estimate that the returns from trapping may decline by 70 per cent-80 per cent for communities within close proximity to the pipeline during Years 3 and 4 of the construction period. Hunting returns might decline by 50 per cent - 55 per cent. Less severe declines will occur in domestic fishing.^{1/}

During the post construction period, declines in the traditional activities would be partially offset by the return of resident workers to these activities.

Participation of pipeline workers in traditional activities during leave periods would depend on whether workers were transported directly from construction camps to home communities or transported first to impact communities

^{1/} These assumptions are based on the numbers of 20-49 year old hunter-trappers likely to be involved in pipeline development and the general disturbance of wildlife in many areas now used by hunter-trappers.

such as Inuvik, Norman Wells and Fort Simpson. Many of the Mackenzie Valley communities would be within a short air distance of construction camps and it might be feasible to transport workers directly to their home communities (providing substantial numbers of pipeline workers are recruited from the various communities). However participation in traditional activities might tend to be more recreational than subsistence in nature.

On the basis of the projected employment patterns for Territorial residents, hunter-trappers employed in pipeline construction could participate in the spring beaver and muskrat hunts in May.^{1/} This would be particularly important in the Lower Mackenzie region where it is assumed that many resident construction workers would use their leave time for the easy spring hunt. Elsewhere, in the Central and Upper regions some importance might be attached to the spring leave period due to the relative importance of beaver trapping in the overall trapping economy. The projected August leave period would occur during the important domestic fishing period. Few construction workers with good earnings could be expected to participate in this traditional activity. Few construction workers on leave might be expected to hunt moose or caribou during the summer as these species are less easily hunted at this period.

The lay-off period in mid-winter would be unlikely to result in construction workers taking part in trapping activities although a few might participate in caribou hunts from communities such as Fort McPherson or Aklavik in the Lower Mackenzie region.

^{1/} Based on anticipated work and income patterns of a Territorial resident.

RECOMMENDATIONS

The following recommendations are based on the current status of the traditional activities and the implications of pipeline development.

1. It is recommended that every possible precaution be used by pipeline companies and governments to avoid disturbing the life patterns and habitat of the Porcupine caribou herd or other forms of wildlife important in the traditional economies of northern residents.
2. It is recommended that pipeline routings and construction procedures, etc. be discussed with hunter-trappers in various communities along the route and serious consideration be given to the recommendations of hunter-trappers in avoiding wildlife disturbance or habitat damages.
3. It is recommended that an increased number of northern residents be given training as game management officers to meet with changes resulting from pipeline and other developments. It is further recommended that game management offices be established at Wrigley, Norman Wells, Arctic Red River and Old Crow.
4. It is recommended that, if feasible, pipeline development be carried out in close proximity to existing roads and highways for the purpose of limiting habitat change and detrimental effects on wildlife.

5. It is recommended that assistance be made available to hunter-trappers seeking compensation due to extensive damage to hunting and trapping areas.
6. It is recommended that resource management programs be developed to avoid excessive harvesting of game, fur and fish resources along pipeline access and service roads and highways.
7. It is recommended that programs including financial assistance be developed by the Territorial government to assist northern residents in developing and operating big game hunting and sports fishing lodges, commercial fishing and tourist services to take advantage of increased accessibility resulting from highway and pipeline development.

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APPENDIX 1

NUMBER AND AVERAGE VALUE OF PELTS, SELECTED FURS -

SELECTED SETTLEMENTS, 1961-69

	Fort McPherson		Inuvik		Fort Norman		Wrigley		Fort Simpson		Fort Liard		Hay River	
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
1961-62														
Beaver	130	14.03	143	13.65	368	7.57	367	12.00	1,005	9.80	748	10.27	578	12.50
Lynx	24	8.38	43	8.05	12	6.33	148	6.23	522	6.05	451	6.22	222	4.47
Marten	224	6.73	1,082	7.34	499	6.03	698	5.68	226	7.16	79	4.48	39	5.99
Mink	293	23.57	312	23.23	136	17.16	91	14.68	270	17.18	109	12.12	405	18.68
Muskrat	36,518	0.65	68,465	0.70	1,601	0.55	1,002	0.58	419	0.45	882	0.61	4,841	0.84
1962-63														
Beaver	108	15.61	72	14.22	383	11.43	390	12.75	805	12.87	668	12.34	467	12.01
Lynx	41	11.83	60	10.85	90	9.29	400	8.36	952	9.95	851	8.21	194	8.43
Marten	348	8.95	942	11.95	775	8.54	552	7.24	369	8.06	48	5.94	38	6.92
Mink	332	26.83	418	29.32	158	21.56	82	18.12	463	20.36	116	17.34	792	21.35
Muskrat	31,720	1.19	59,935	1.16	709	0.82	900	0.87	203	0.74	431	0.98	660	0.98
1963-64														
Beaver	132	12.65	198	16.56	641	11.50	298	12.26	1,678	14.20	707	12.61	304	10.96
Lynx	46	12.54	89	11.43	100	11.24	259	12.07	456	13.46	416	10.14	113	13.36
Marten	984	13.02	2,772	13.18	1,101	10.09	859	8.86	585	10.11	117	7.88	75	9.29
Mink	330	37.13	577	33.46	151	25.87	81	20.44	208	22.86	103	23.97	372	26.53
Muskrat	15,087	1.21	32,920	1.16	949	0.94	426	0.67	690	1.03	81	0.78	832	0.73
1964-65														
Beaver	163	14.52	344	9.00	473	8.42	220	10.18	1,667	11.23	957	9.12	95	8.58
Lynx	28	11.54	56	13.76	18	8.28	83	9.91	116	12.98	54	9.59	14	10.87
Marten	292	11.67	1,645	13.02	455	9.16	364	4.97	829	9.57	54	8.34	69	5.70
Mink	159	25.25	289	26.29	99	21.15	48	15.26	187	17.79	47	16.54	153	18.36
Muskrat	19,352	1.17	19,720	1.07	785	0.88	286	0.70	720	0.76	337	0.82	621	0.92

APPENDIX 1 (Contd.)

NUMBER AND AVERAGE VALUE OF PELTS, SELECTED FURS -
SELECTED SETTLEMENT, 1961-69

	Fort McPherson		Inuvik		Fort Norman		Wrigley		Fort Simpson		Fort Liard		Hay River	
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
1965-66														
Beaver	279	13.95	514	13.95	351	9.99	24	10.09	1,325	11.31	413	9.52	187	10.89
Lynx	74	31.12	166	24.80	8	26.00	54	21.61	147	22.52	96	17.73	2	11.00
Marten	129	17.72	370	16.02	308	11.02	107	21.58	967	13.42	113	9.73	31	8.33
Mink	104	27.70	265	31.60	40	17.11	9	16.88	212	16.18	76	9.14	50	19.36
Muskrat	25,168	1.45	23,915	1.42	1,601	1.03	346	0.82	923	0.95	246	0.99	3,057	1.29
1966-67														
Beaver	328	11.70	632	10.98	488	11.01	147	7.52	1,121	9.97	455	9.02	291	8.28
Lynx	27	29.43	86	28.85	-	-	10	17.40	74	26.68	38	14.98	9	17.67
Marten	222	16.06	198	12.99	476	10.68	146	8.42	1,157	12.49	166	10.26	173	10.93
Mink	128	22.74	163	22.53	59	14.93	15	17.80	108	13.49	26	11.15	178	17.73
Muskrat	25,278	0.60	32,225	0.67	2,196	0.60	379	0.47	1,089	0.54	306	0.49	3,324	0.51
1967-68														
Beaver	258	16.17	466	11.04	408	16.20	193	9.75	1,093	11.25	509	10.63	187	12.55
Lynx	19	24.19	27	21.10	2	20.50	19	15.05	85	16.98	60	12.65	16	16.34
Marten	213	10.36	439	13.41	504	8.93	583	8.00	1,379	9.32	120	8.12	239	7.80
Mink	62	18.24	142	22.19	58	18.05	36	12.94	138	14.63	70	12.31	645	17.22
Muskrat	51,050	.70	63,702	.61	2,098	.70	810	.59	737	.55	705	.57	579	.60
1968-69														
Beaver	200	15.21	395	16.49	499	11.55	219	12.76	771	12.52	443	11.77	657	15.04
Lynx	215	31.25	334	29.93	1	16.50	44	25.25	187	25.92	102	22.71	116	28.98
Marten	281	11.96	307	13.49	325	8.45	699	3.41	914	9.61	167	6.52	512	9.74
Mink	84	14.76	367	30.31	97	16.60	45	15.39	225	15.16	106	10.92	615	20.03
Muskrat	52,563	.80	83,316	1.07	1,776	.79	650	.96	507	.84	272	.87	684	.96

APPENDIX 2

FUR PRODUCTION FROM FUR EXPORT TAX RETURNS

1960-61 to 1969-70

	Bear White or Polar	Not. Spec.	Beaver	Fox				Lynx	Martens	Mink	Muskrat	Squirrel	Weasel	Wolf	Wolverine
				Blue	Cross	Red	Silver	White							
Aklavik															
1960-61	-	-	4	-	9	2	1	8	30	860	54,213	15	126	-	-
1961-62*	-	-	10	-	1	1	-	55	14	456	69,704	56	37	-	-
1962-63	-	1	12	-	4	4	1	3	13	500	57,561	19	334	-	-
1963-64**	-	2	16	-	3	6	-	26	369	609	26,979	8	538	-	1
1964-65	-	4	36	-	5	2	-	22	6	326	24,823	18	362	-	-
1965-66	-	-	257	-	10	20	3	-	53	178	21,090	6	212	-	-
1966-67	-	7	382	-	6	18	4	10	6	134	44,967	124	356	5	-
1967-68	-	3	202	1	7	17	1	38	355	35	67,215	60	459	7	-
1968-69	-	2	223	-	31	24	4	12	1	210	69,668	28	80	8	-
1969-70	-	2	82	2	23	32	7	18	59	800	38,457	28	140	2	-
* 1 Wolverine taken															
** 1 Wolverine taken															
Tuktoyaktuk															
1960-61	4	-	-	1	5	8	-	267	449	13	92	-	60	1	-
1961-62	9	-	-	1	2	-	-	848	330	12	476	-	37	2	-
1962-63	4	-	1	2	15	24	1	577	880	25	4,287	-	229	-	-
1963-64	18	1	-	5	18	60	2	905	1,909	20	1,909	-	242	-	-
1964-65	22	-	-	1	4	4	-	137	493	25	210	-	158	-	-
1965-66	25	-	1	6	30	52	6	260	386	28	14	-	277	1	-
1966-67	32	2	-	-	22	46	1	249	266	9	8	-	234	-	-
1967-68	14	-	-	-	4	9	-	420	24	7	-	-	65	4	-
1968-69	17	3	-	-	58	65	13	539	21	-	184	-	1	-	-
1969-70	5	1	-	2	62	59	12	351	494	6	713	-	49	4	-
Arctic Red River															
1960-61	-	-	53	-	-	-	-	-	245	164	2,347	10	14	-	-
1961-62	-	-	82	-	-	2	-	-	737	63	2,755	17	29	-	-
1962-63	-	-	69	-	2	1	1	-	447	60	2,150	11	41	-	-
1963-64	-	-	126	-	3	7	1	1	646	84	2,083	7	63	-	-
1964-65	-	3	75	-	-	-	-	-	73	14	789	1	17	-	-
1965-66	-	3	60	-	3	1	-	-	79	10	966	11	59	-	-
1966-67	-	1	30	1	7	4	1	3	52	18	659	162	54	2	-
1967-68	-	-	49	-	1	-	-	-	156	13	1,678	50	40	-	-
1968-69	-	1	159	-	-	2	-	-	199	10	4,570	66	52	4	-
1969-70	-	1	18	-	1	2	-	-	52	24	385	-	40	-	-

APPENDIX 2 (cont.)

FUR PRODUCTION FROM FUR EXPORT TAX RETURNS

1960-61 to 1969-70

	Bear White or Polar	Bear Spec.	Not Spec.	Beaver	Black	Blue	Cross	Fox	Red	Silver	White	Lynx	Marten	Mink	Muskrat	Otter	Squirrel	Weasel	Wolf	Wolverine
Fort McPherson																				
1960-61	-	-	3	1	-	-	-	-	-	-	-	10	284	336	32,795	-	25	53	-	-
1961-62	-	-	3	23	-	-	-	2	2	1	-	23	110	289	37,145	-	367	87	-	1
1962-63	-	-	1	75	-	-	4	-	-	-	-	31	187	320	32,573	-	297	271	-	-
1963-64	-	-	3	78	-	-	1	2	2	1	-	33	248	337	15,484	1	108	370	-	-
1964-65	-	-	3	33	1	-	-	-	1	1	1	23	101	136	18,223	-	84	176	-	-
1965-66	-	-	3	259	-	-	3	3	3	-	-	72	67	101	24,881	1	80	170	-	-
1966-67	-	-	4	320	-	-	4	10	4	-	1	25	128	111	32,477	-	780	375	3	-
1967-68	-	-	4	252	-	-	1	1	1	-	4	20	237	80	49,295	-	72	257	1	-
1968-69	-	-	5	196	-	-	5	4	4	3	1	180	360	153	52,710	2	66	205	5	-
1969-70	-	-	4	134	1	-	15	15	15	1	-	306	244	375	8,271	1	121	245	-	-
Inuvik																				
1960-61	-	-	-	53	-	-	8	23	23	1	2	39	1,243	1,032	46,239	-	187	207	-	-
1961-62	-	-	-	88	-	2	21	25	25	1	144	49	530	365	74,042	-	30	112	1	-
1962-63	-	-	-	9	-	1	14	16	16	2	18	72	1,137	438	67,549	-	26	535	-	-
1963-64	-	-	-	184	-	-	20	78	78	3	428	163	2,720	688	37,895	1	8	856	1	-
1964-65*	-	-	8	367	-	-	6	8	8	2	16	75	1,815	354	24,195	-	28	296	2	-
1965-66	-	-	1	652	-	-	26	33	33	1	75	232	533	315	29,259	-	8	459	-	1
1966-67**	5	5	7	764	-	10	27	46	46	5	1,845	119	180	213	37,368	-	131	526	1	-
1967-68	-	-	7	404	-	1	27	14	14	3	101	45	664	178	72,551	-	97	509	10	-
1968-69	1	8	8	603	1	4	48	82	82	10	502	399	559	419	93,807	-	32	166	10	1
1969-70	-	-	8	305	-	1	95	125	125	13	227	667	554	1,242	32,643	-	90	277	12	-

Bear not specified in heading indicates bear hides exported may have been black or grizzly bear hides. The majority of non-specified hides are black bear hides.

*1 Fisher Taken **1 Fisher Taken

APPENDIX 2 (cont.)

FUR PRODUCTION FROM FUR EXPORT TAX RETURNS

1960-61 to 1969-70

	Bear White or Polar	Beaver Not Spec.	Blue	Cross	Red	Silver	White	Lynx	Marten	Mink	Muskrat	Otter	Squirrel	Weasel	Wolf	Wolverine
Fort Norman																
1960-61	-	-	271	-	-	-	1	6	1,939	399	2,634	2	102	121	1	-
(Incl. 1961-62	-	3	601	-	2	8	42	7	1,618	338	2,012	10	255	65	1	-
Fort 1962-63	-	1	948	-	4	3	1	95	2,776	324	2,811	10	235	269	-	-
Franklin 1963-64	-	-	1,117	1	3	12	1	199	3,903	340	3,228	8	79	337	49	2
1964-65	-	-	12	4	3	3	7	30	2,112	233	1,147	5	66	97	2	-
1965-66	-	16	814	-	10	10	-	17	1,490	168	1,948	11	70	200	3	2
1966-67	-	9	597	-	6	3	-	1	2,205	199	2,631	4	144	148	11	-
1967-68	-	7	711	-	7	8	-	2	2,225	198	2,474	6	166	149	4	2
1968-69	-	7	945	-	8	7	3	1	1,989	219	2,560	1	119	70	23	2
1969-70	-	7	757	-	1	7	-	8	2,702	346	891	9	50	112	2	-
1963-64	3 coyotes, 1967-68	1 black fox														
Fort Simpson & Wrigley																
1960-61	-	1	1,197	-	1	6	-	354	1,386	295	1,144	3	3,150	387	3	-
1961-62	-	8	1,435	-	-	7	-	756	982	379	1,379	10	3,422	107	2	3
1962-63	-	-	1,277	-	6	16	2	1,452	949	618	1,137	9	2,706	404	-	-
1963-64	-	-	1,960	-	14	52	3	740	1,576	293	1,120	7	978	607	4	3
1964-65	-	13	2,034	-	4	7	-	201	1,244	238	1,193	12	1,696	322	1	11
1965-66	-	23	1,653	-	5	7	-	258	1,238	234	1,476	1	3,021	754	15	3
1966-67	-	14	1,354	-	1	7	1	98	1,742	141	1,613	2	1,066	410	13	1
1967-68	-	7	1,589	-	2	6	-	125	2,683	287	2,036	2	3,486	503	11	-
1968-69	-	7	1,343	-	-	5	-	274	1,964	301	1,237	11	3,198	409	15	5
1969-70	-	7	1,546	-	1	6	2	607	2,298	349	840	5	1,360	224	8	5
1963-64	2 coyotes, 1961-62	1 fisher, 1964-65	1 fisher, 1964-66	1 fisher, 1965-66	1 fisher, 1965-66	2 fisher, 1966-67	1 fisher, 1966-67	1 skunk								

APPENDIX 2 (cont.)

FUR PRODUCTION FROM FUR EXPORT TAX RETURNS

1960-61 to 1969-70

	Bear White or Polar Spec.	Beaver	Coyote	Fisher	Fox				Lynx	Martens	Mink	Muskrat	Otter	Skunk	Squirrel	Weasel	Wolf	Wolverine
					Black	Blue	Cross	Red										
Fort Liard*																		
1960-61	-	-	-	1	-	-	1	1	218	306	204	2,437	3	-	-	1,614	275	3
1961-62	-	2	1,243	7	-	-	-	3	796	240	178	1,380	10	-	-	2,419	144	-
1962-63	-	-	1,138	7	-	-	-	4	1,630	202	241	516	5	-	-	947	223	-
1963-64	-	-	1,112	6	-	-	3	5	692	300	183	119	5	-	-	472	307	-
1964-65	-	4	1,489	1	-	-	-	-	109	188	93	484	5	8	-	2,566	116	-
1965-66	-	13	993	4	-	-	-	-	182	248	131	692	6	-	-	3,207	706	2
1966-67	-	9	825	6	-	-	1	1	77	283	63	978	3	-	-	1,871	425	13
1967-68	-	21	1,158	3	-	-	-	-	145	235	141	2,189	8	-	-	8,118	202	1
1968-69	-	9	894	4	-	-	1	2	264	255	219	1,312	4	-	-	5,202	418	12
1969-70	-	11	891	8	-	-	-	1	676	393	216	1,071	9	-	-	2,269	199	2
Hay River																		
1960-61	-	1	480	1	-	-	2	6	418	46	651	2,480	9	-	-	8,224	116	1
1961-62	-	3	763	3	-	-	2	9	318	46	421	4,839	15	-	-	2,709	153	-
1962-63	-	6	714	2	-	-	2	5	227	42	931	785	16	-	-	1,547	244	11
1963-64	-	4	376	10	-	-	1	6	130	86	432	992	9	-	-	650	611	6
1964-65	-	4	431	1	-	-	-	2	6	83	184	1,978	13	1	-	1,382	1,793	-
1965-66	-	4	708	2	-	-	-	1	6	76	104	7,954	10	-	-	1,652	399	11
1966-67	-	5	423	2	-	-	-	3	21	250	209	3,713	3	-	-	817	454	15
1967-68	-	1	618	8	-	-	2	-	21	283	670	5,125	12	-	-	2,705	958	5
1968-69	-	12	743	1	-	-	-	5	81	511	530	2,729	8	-	-	1,086	556	15
1969-70	-	13	1,099	5	-	-	2	4	206	318	316	7,070	13	-	-	1,036	399	6

* Includes Nahanni Butte

Source: Game Branch, N.W.T. Government.

APPENDIX 3

TERRITORIAL PROGRAMS TO ASSIST HUNTER-TRAPPERS,

INUVIK REGION

1971-72

<u>Resource Harvesting Assistance Program</u>				
<u>Hunter & Casual Trappers' Assistance</u>			<u>Fishermens' Assistance</u>	
<u>Settlement</u>	<u>Number of Individuals</u>	<u>Amount</u>	<u>Number of Individuals</u>	<u>Amount</u>
Fort McPherson	17	1,169.00	3	97.40
Fort Franklin	11	885.00	-	--
Aklavik	15	690.50	1	70.00
Inuvik	7	505.00	4	186.00
Fort Good Hope	3	98.00	-	--
Arctic Red River	-	--	1	100.00
Fort Norman	-	--	-	--
Tuktoyaktuk	-	--	-	--
	53	\$3,347.50	9	\$453.40

Scale of individual assistance under the above program is \$15 to \$100.

Trappers' Assistance

<u>Settlement</u>	<u>Number of Individuals</u>	<u>Amount</u>
Fort McPherson	25	\$4,257.23
Aklavik	8	1,203.34
Inuvik	22	4,193.73
Tuktoyaktuk	5	1,257.16
Paulatuk	10	3,000.03
Fort Franklin	23	3,792.63
Fort Norman	1	35.00
Fort Good Hope	29	3,242.78
Colville Lake	4	381.00

Scale of individual assistance under the above program is \$35 to \$700.

Organized Caribou Hunts

<u>Settlement</u>	<u>Amount</u>
Fort Good Hope - 1 spotting trip (361.00)	361.00
Fort McPherson - 2 spotting trips (281.00, 286.00)	567.00
Aklavik - 3 spotting trips (183.00, 179.00, 225.00)	587.00
Fort Franklin - 2 spotting trips (390.00, 592.00)	
meat hauled by aircraft (1,732.00)	
groceries for hunt (748.72)	\$3,462.72

Scale for individual assistance not applicable as these are group ventures involving many hunters from each settlement.

APPENDIX 4

GENERAL HUNTING LICENCES ISSUED - SELECTED SETTLEMENTS 1959-70

	1959-1960	1960-1961	1961-1962	1962-1963	1963-1964	1964-1965	1965-1966	1966-1967	1967-1968	1968-1969	1969-1970	Per Cent Increase or Decrease	
												59-60	69-70
Fort McPherson													
Whites	9	13	16	21	23	17	24	22	23	26	18	+	100.0
Indians	84	74	98	120	122	116	117	110	122	125	127	+	51.2
Eskimos	--	--	--	--	--	--	2	2	--	--	--	--	--
Total	93	87	114	141	145	133	143	134	145	151	145	+	55.9
Inuvik													
Whites	14	23	26	31	35	37	41	38	40	51	45	+	221.4
Indians	1	8	13	19	18	18	17	32	25	25	25	+	2,400.0
Eskimos	12	46	56	99	98	99	104	102	108	122	110	+	816.7
Total	27	77	95	149	151	154	162	172	173	198	180	+	566.7
Fort Norman*													
Whites	21	16	23	27	29	29	27	27	24	24	26	+	13.0**
Indians	71	90	41	47	51	50	49	51	50	52	53	--	29.3**
Eskimos	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	92	106	64	74	80	79	76	78	74	76	79	--	23.4**
Wrigley													
Whites	--	--	--	--	--	--	1	1	1	--	--	--	--
Indians	--	38	37	40	43	40	34	34	33	33	40	+	5.3**
Eskimos	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	--	38	37	40	43	40	35	35	34	33	40	+	5.3**
Fort Simpson													
Whites	20	19	20	19	17	17	16	15	17	17	23	+	15.0
Indians	91	96	109	96	92	92	100	100	99	114	129	+	41.8
Eskimos	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	111	115	129	115	109	109	116	115	116	131	152	*	36.9
Fort Liard													
Whites	3	2	3	3	4	2	3	2	4	3	3	--	--
Indians	43	20	35	43	41	46	40	48	50	48	45	+	4.7
Eskimos	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	46	22	38	46	45	48	43	50	54	51	48	+	4.3
Hay River													
White	29	31	34	30	33	33	32	40	42	41	37	+	27.6
Indians	47	46	52	65	63	65	63	64	74	71	71	+	51.1
Eskimos	--	--	--	--	--	--	3	6	3	1	--	--	--
Total	76	77	86	95	96	98	98	110	119	113	108	+	42.1

* Includes Norman Wells for all years, Fort Franklin - 1959-1960, 1960-1961.

** Percentage increase for Fort Norman from 1961-1962 to 1969-1970 and for Wrigley from 1960-1961 to 1969-1 70.

GENERAL HUNTING LICENCES ISSUED
1968-69*

Community	WHITES	INDIAN	ESKIMO	TOTAL
LOWER MACKENZIE REGION				
Aklavik	45	38	96	179
Inuvik	51	25	122	198
Tuktoyaktuk	2	-	91	93
Fort McPherson	26	125	-	151
CENTRAL MACKENZIE REGION				
Arctic Red River	4	26	-	30
Fort Good Hope	13	100	-	113
Fort Norman	24	52	-	76
Fort Franklin	3	48	-	51
UPPER MACKENZIE REGION				
Wrigley	-	33	-	33
Fort Simpson	17	114	-	131
Nahanni Butte	2	15	-	17
Fort Liard	3	48	-	51
Fort Providence	13	71	-	84
Hay River	41	71	-	112

* General hunting licence year extends from July 1 to June 30 of the following year. Game and fur returns are based on general licence years.

APPENDIX 6
GENERAL HUNTING LICENCES ISSUED
1969-70

Community	WHITES	INDIAN	ESKIMO	TOTAL
LOWER MACKENZIE REGION				
Aklavik	37	37	80	154
Inuvik	45	25	110	180
Tuktoyaktuk	1	3	65	69
Fort McPherson	18	127	-	145
CENTRAL MACKENZIE REGION				
Fort Good Hope	14	82	-	96
Fort Norman	26	53	-	79
Fort Franklin	3	44	-	47
UPPER MACKENZIE REGION				
Wrigley	-	40	-	40
Fort Simpson	23	129	-	152
Nahanni Butte	3	21	-	24
Fort Liard	3	45	-	48
Fort Providence	16	68	-	84
Hay River	37	71	-	108

APPENDIX 7

TRAPPERS INCOME RANGE, UPPER MACKENZIE

1967-68

Income Range	Fort Liard*	Nahanni Butte**	Trout Lake	Jean Marie
\$				
1600 - 1699	-	1	-	-
1500 - 1599	-	-	-	-
1400 - 1499	-	1	-	-
1300 - 1399	-	-	-	1
1200 - 1299	1	-	-	-
1100 - 1199	2	-	-	-
1000 - 1099	-	-	-	-
900 - 999	1	-	1	-
800 - 899	1	2	-	-
700 - 799	-	-	-	-
600 - 699	1	-	1	-
500 - 599	6	2	-	-
400 - 499	8	1	1	-
300 - 399	1	2	-	-
200 - 299	4	-	1	-
100 - 199	3	-	-	3
50 - 99	2	-	2	-
Under 50	4	-	2	-
No. of Trappers	34	9	8	4

* One trapper reported earning \$2,239

** One trapper reported earning \$1,949

Source: Higgins, G. The Lower Liard Region, D.I.A.N.D.
Ottawa, 1968, pp. 181, 190, 194, 198

APPENDIX 8

TRAPPERS INCOME RANGE, CENTRAL MACKENZIE

1966-67

<u>Income Range</u>	<u>Fort Franklin</u>	<u>Fort Norman</u>	<u>Fort Good Hope</u>	<u>Colville Lake</u>
1600 - 1699	-	-	-	-
1500 - 1599	1	-	-	-
1400 - 1499	-	-	-	1
1300 - 1399	-	-	-	-
1200 - 1299	-	-	-	1
1100 - 1199	2	-	-	-
1000 - 1099	1	-	2	1
900 - 999	-	-	2	-
800 - 899	2	-	1	2
700 - 799	3	1	3	1
600 - 699	1	2	1	1
500 - 599	3	1	3	2
400 - 499	6	1	6	4
300 - 399	11	2	5	8
200 - 299	3	8	10	2
100 - 199	14	24	21	3
50 - 99	8	11	8	3
Below 50	10	9	18	4
TOTALS	65	59	80	33

* D. Villiers (personal communication)

APPENDIX 9

NUMBER OF TRAPPERS AND INCOME RANGE MACKENZIE VALLEY

1967-69

Community	1967-68			1968-69		
	No. Trapping	Income Range		No. Trapping	Income Range	
		< \$200	= \$200+		< \$200	\$200 +
LOWER MACKENZIE REGION						
Aklavik	137	72	65	178	82	96
Inuvik	110	49	61	204	99	105
Tuktoyaktuk	36	25	11	52	34	37
Fort McPherson	129	64	65	157	62	95
Arctic Red River	25	13	12	27	9	18
CENTRAL MACKENZIE REGION						
Fort Good Hope	94	40	54	76	41	35
Colville Lake	n/a	n/a	n/a	16	7	9
Fort Norman	54	27	27	52	21	31
Fort Franklin	61	20	41	n/a	n/a	n/a
UPPER MACKENZIE REGION						
Wrigley	n/a	n/a	n/a	42	16	26
Fort Simpson	75	33	42	98	53	45
Nahanni Butte	19	3	16	23	4	19
Jean Marie River	n/a	n/a	n/a	8	6	2
Fort Liard	48	23	25	42	23	19
Trout Lake	n/a	n/a	n/a	19	12	7
Fort Providence	69	59	10	89	64	25
Hay River	84	49	35	63	49	24

Source : Game Management Service, N.W.T.

APPENDIX 10

NUMBER OF TRAPPERS AND INCOME RANGE, MACKENZIE VALLEY
1969-70

Community	Number of Trappers	Income Range	
		◀ \$200	\$200 +
LOWER MACKENZIE REGION			
Aklavik	207	130	77
Inuvik	226	126	100
Tuktoyaktuk	48	36	12
Fort McPherson	114	83	31
Arctic Red River	20	19	1
CENTRAL MACKENZIE REGION			
Fort Good Hope	60	28	32
Colville Lake	12	9	3
Fort Norman	52	28	24
Fort Franklin	69	30	39
UPPER MACKENZIE REGION			
Wrigley	40	14	26
Fort Simpson	94	74	20
Nahanni Butte	20	5	15
Fort Liard	51	25	26
Hay River	95	69	26

Source : Game Management Service, N.W.T.

APPENDIX 11

ACTIVE TRAPPERS BY SETTLEMENT

1971

Settlement	General Hunting Licences Issued	Number of Active Trappers* (1971)	Number Dependent on Land**
Aklavik	113	16	6
Inuvik	192	30	31
Tuktoyaktuk	55	6	4
Fort McPherson	145(1969-70)	10	12
Arctic Red River	23	4	4
Fort Good Hope	96	5	7
Colville Lake	n/a	10	n/a
Fort Norman	72	15	9
Norman Wells	9	4	1
Fort Franklin	47(1969-70)	22	n/a
Wrigley	43	11	30
Fort Simpson	152	17	n/a
Nahanni Butte	23	6	13
Fort Liard	62(1969-70)	14	3
Trout Lake	n/a	9	n/a
Hay River	108(1969-70)	17	1
Fort Providence	<u>94</u>	<u>7</u>	<u>n/a</u>
TOTALS	1,234	203	121

* Earning \$1,000 and/or two months on the trapline.

Source : Game Management Service, Department of Industry
and Development, Northwest Territories Government

** Game Management Service

APPENDIX 12

TOTAL VALUE OF ALL SPECIES OF FURS PURCHASED
FORT McPHERSON, 1967-69

<u>1967-68</u>	<u>Amount</u>	<u>1968-69</u>	<u>Amount</u>
July	\$ 175.00	July	\$ 476.00
November	22.00	November	1,044.60
December	2,876.20	December	5,319.85
January	215.55	January	2,379.60
February	25.15	February	2,053.70
March	1,028.70	March	6,213.60
April	4,911.80	April	8,231.20
May	5,009.65	May	19,942.85
June	29,418.30	June	26,941.80
Total	<u>\$43,682.35</u>	Total	<u>\$72,603.20</u>

Note: No transaction in months of August, September,
October.

Source: Traders' Fur Record Books.

APPENDIX 13

LOCAL TRAPPING INCOME BY MONTH, FORT MCPHERSON 1969-70

<u>Month</u>	<u>No. of Times Fur Traded</u>	<u>Value (\$)</u>	<u>Month</u>	<u>No. of Times Fur Traded</u>	<u>Value (\$)</u>
July 69	2	\$ 44.50	Jan. 70	68(3)	\$3,428.25
Aug.	-	Nil	Feb.	48	2,570.00
Sept.	-	Nil	March	107	4,702.50
Oct.	-	Nil	April	57	2,292.75
Nov.	16	429.00	May	68(1)	2,723.75
Dec.	27	1,310.39	June	88	3,645.00

Total of No. of Times Fur Traded - 481

Total Value (\$) - \$21,146.14

Numbers in brackets indicate times for traded by Arctic Red River trappers

Source: Fur Traders' Record Books.

Source: Traders' Fur Record Book.

APPENDIX 15

LOCAL FUR TRADE BY MONTH AT FORT NORMAN

NOVEMBER, 1969 - JUNE, 1971*

<u>Month</u>	<u>No. of Times Fur Traded</u>	<u>Value (\$)</u>	<u>Month</u>	<u>No. of Times Fur Traded</u>	<u>Value (\$)</u>
Nov. '69	10	429.75	Sept. '70	-	Nil
Dec.	39	4,612.40	Oct.	-	Nil
Jan. '70	33	2,340.00	Nov.	14	1,735.00
Feb.	16	458.65	Dec.	47	5,022.80
March	14	422.50	Jan. '71	16	836.50
April	9	146.55	Feb.	15	1,184.00
May	25	765.00	March	9	370.50
June	21	1,687.00	April	3	50.00
July	-	Nil	May	19	2,136.90
Aug.	-	Nil	June	14	931.80

Total No. of Times Fur Trades - 304

Total Value (\$) - \$23,129.35

* Based on Trader's Fur Record Books, 1969-70

APPENDIX 16

TRAPPERS TRADING AT FORT McPHERSON, FORT NORMAN AND
FORT SIMPSON - 1970-71

	<u>Local Trappers</u>	<u>Arctic Red River</u>	<u>Fort Liard</u>	<u>Jean Marie River</u>	<u>Nahanni Butte</u>	<u>Trout Lake</u>	<u>Wrigley</u>	<u>Total</u>
Fort McPherson	106	2	-	-	-	-	-	108
Fort Norman	46	-	-	-	-	-	-	46
Fort Simpson	<u>67</u>	<u>-</u>	<u>1</u>	<u>4</u>	<u>15</u>	<u>10</u>	<u>3</u>	<u>100</u>
Totals	219	2	1	4	15	10	3	254

Source: Fur Traders' Record Books.

APPENDIX 17

INCOME RANGES, TRADITIONAL ACTIVITIES, 1969-70*

LOWER MACKENZIE REGION

<u>Income Range</u>	<u>Number of Hunter-Trappers</u>	<u>Per Cent</u>
\$2,000.00 plus	9	6
\$600.00 - \$1,500	24	16
\$200.00 - \$599.00	46	32
less than \$200.00	5	3
not specified	<u>66</u>	<u>45</u>
Total	<u>146</u>	<u>100</u>

CENTRAL MACKENZIE REGION

\$600.00 - \$1,700.00	12	12
\$200.00 - \$599.00	42	41
Less than \$200.00	29	28
not specified	<u>20</u>	<u>19</u>
Total	<u>103</u>	<u>100</u>

UPPER MACKENZIE REGION

\$2,000.00	1	1
\$600.00 - \$1,200.00	20	15
\$200.00 - \$599.00	73	55
less than \$200.00	6	5
not specified	<u>32</u>	<u>24</u>
Total	<u>132</u>	<u>100</u>

*Mackenzie Manpower Survey, D.I.A.N.D.

APPENDIX 18

TRAPPER INCOMES BY SETTLEMENT, LOWER MACKENZIE REGION, 1969-70 SEASON

Income		Specified \$1-99 \$100-199 \$200-299 \$300-399 \$400-499 \$500-599 \$600-699 \$700-799 \$800-899 \$900-999 \$1000-1099 \$1100-1199 \$1200 \$1500-											
Not													
Aklavik													
Eskimo	-	1	3(1)	4	1	1	-	1	1	1	4	-	-
Indian	5(1)	-	3(1)	1	1	1	-	-	-	-	1	1	-
Métis	4	-	-	-	1	1	-	-	-	-	1	-	-
Other	-	-	1	-	1	-	-	-	-	-	-	-	-
Inuvik*													
Eskimo	12	-	-	1	1	-	-	1	-	-	-	-	4
Indian	2	-	1	-	-	-	-	-	-	-	-	-	-
Métis	1	-	-	-	-	-	-	-	-	-	-	-	-
Other	1	-	1	-	-	-	-	-	-	-	-	-	-
Tuktoyaktuk													
Eskimo	20	-	1(1)	-	-	-	1	1	-	-	-	-	-
Fort McPherson													
Eskimo	1	-	-	-	-	-	-	-	-	-	-	-	-
Indian	13	1	3	3	-	-	1	1	2	-	-	-	1
Métis	1	-	-	-	-	-	-	-	-	-	-	-	1
Arctic Red River													
Indian	4	1	2	3	1	2	1	-	-	-	-	-	-
Totals	64 (2)	2(1)	2	15(4)	12	6	5	3	1	4	3	6	1
													2
													4

* In addition, 1 Eskimo reported an income of \$2,000, 1-\$2,300, 4-\$3,000 and 1-\$4,000; 1 Métis reported income of \$2,000; and 1 of other ethnic origin reported an income of \$6,000.

Note : Figures in brackets are indicated as female trappers

Source: Mackenzie Manpower Survey, 1970

APPENDIX 19

TRAPPER INCOMES BY SETTLEMENT, CENTRAL MACKENZIE REGION, 1969-70 SEASON

Income
Not
Specified

	\$1-99	\$100-199	\$200-299	\$300-399	\$400-499	\$500-599	\$600-699	\$700-799	\$800-899	\$1,200	\$1,500	\$1,700
<u>FORT GOOD HOPE</u>												
Indian	1	4	4	3	1	1	-	-	-	1	1	1
<u>COLVILLE LAKE</u>												
Indian	5	-	-	1	2	-	-	1	-	-	-	-
<u>FORT NORMAN</u>												
Indian	2	1	5	4	3	4	4	1	-	-	-	-
Métis	-	-	-	-	-	-	1	-	-	-	-	-
<u>FORT FRANKLIN</u>												
Indian	12	-	15	12	4	2	1	-	1	-	-	-
Total	20	5	24	20	10	7	5	2	1	1	1	1

Source : Mackenzie Manpower Survey, 1970

APPENDIX 20
TRAPPER INCOMES BY SETTLEMENT, UPPER MACKENZIE REGION, 1969-70 SEASON

	Income Not Specified	\$1-99 \$100-199 \$200-299 \$300-399 \$400-499 \$500-599 \$600-699 \$700-799 \$800-899 \$900-999 \$1000-1099 \$1,200 \$2,000										
<u>Wrigley Indian</u>	13(1)	-	-	-	-	-	-	-	-	-	-	-
<u>Jean Marie River Indian</u>	-	-	1	3	-	1	-	-	-	-	-	-
<u>Fort Liard Indian</u>	7	-	6	11	12	10	5	1	5	1	2	1
<u>Nahanni Butte Indian</u>	2	-	-	6	6	1	-	-	-	-	-	-
<u>Trout Lake Indian</u>	-	-	-	-	2	1	3	-	1	1	1	-
<u>Fort Providence Indian</u>	10	-	-	2	5	2	2	3	3	-	-	1
Totals	32	0	6	20	28	14	11	4	9	2	3	1

Note: Number of returns for Fort Simpson or Hay River were not considered adequate for reliable assessment of local involvement in hunting, trapping and fishing.

Figure in brackets indicates female trapper.

Source: Mackenzie Manpower Survey, 1970

APPENDIX 21

NUMBER OF INDIVIDUALS AND TIME
SPENT IN TRADITIONAL ACTIVITIES
1969-70

Lower Mackenzie Region

<u>Number of Weeks Spent</u> <u>in Traditional Activities</u>	<u>Number of</u> <u>Hunter-Trappers</u>
46 - 52 weeks	35
25 - 45 weeks	20
Under 25 weeks	81
not specified	<u>10</u>
TOTAL	<u>146</u>

Central Mackenzie Region

46 - 52 weeks	0
25 - 45 weeks	12
Under 25 weeks	90
not specified	<u>1</u>
TOTAL	<u>103</u>

Upper Mackenzie Region

46 - 52 weeks	74
25 - 45 weeks	20
Under 25 weeks	33
not specified	<u>6</u>
TOTAL	<u>133</u>

Source: Mackenzie Manpower Survey, D.I.A.N.D., 1970

APPENDIX 22

NUMBER OF WEEKS EXPENDED IN TRADITIONAL ACTIVITIES BY HUNTERS IN MACKENZIE VALLEY, 1969-70 SEASON

Community	Weeks not specified	1 - 3	4 - 10	11 - 17	18 - 24	25 - 31	32 - 38	39 - 45	46 - 52	Total number of trappers
Aklavik	3	1	7 (3)	5	9 (2)	1	2	2	9 (1)	36 (6)
Inuvik	-	-	3	4	4	1	2	2	18	34
Tuktoyaktuk	6	1	3	5	5 (1)	-	-	-	3	23 (1)
Fort McPherson	1	1	10	-	7	8	1	-	-	28
Arctic Red River	-	1	5	3	1	1	-	-	4	15
Fort Good Hope	-	-	8	6	2	1	-	-	-	17
Colville Lake	-	-	1	3	4	1	-	-	-	9
Fort Norman	-	-	7	16	4	2	-	-	-	29
Fort Franklin	1	-	2	24	13	3	4	1	-	48
Wrigley	5	-	2 (1)	1	3	1	-	-	1	13 (1)
Jean Marie River	-	-	-	-	-	-	-	4	1	5
Fort Liard	-	-	1	1	2	1	-	4	52	61
Nahanni Butte	-	-	-	-	2	-	3	3	7	15
Trout Lake	-	-	-	-	-	-	-	-	10	10
Fort Providence	1	-	1	-	19	4	-	-	3	28
Total	17	4	50 (4)	68	75 (3)	24	12	16	108 (1)	374 (8)

Note : Figures in Brackets indicate additional trappers who are female.

Source : D.I.A.N.D., Mackenzie Survey, 1970.

APPENDIX 23

AGE RANGE OF HUNTER-TRAPPERS 1969-70

LOWER MACKENZIE

<u>Age Range</u>	<u>No.</u>	<u>% of Hunter-Trappers</u>
15-29	52	35%
30-49	71	49
50-65 +	<u>23</u>	<u>16</u>
	146	100%

CENTRAL MACKENZIE

15-29	36	35%
30-49	43	42
50-65 +	<u>24</u>	<u>23</u>
	103	100%

UPPER MACKENZIE

15-29	43	32%
30-49	54	41
50-65 +	<u>36</u>	<u>27</u>
	133	100%

Source : Mackenzie Manpower Survey, D.I.A.N.D., 1970

APPENDIX 24

AGE RANGE OF TRAPPERS BY SETTLEMENT, LOWER MACKENZIE REGION, 1969-70 SEASON

Community	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	TOTAL
<u>Aklavik</u>												
Eskimo	2	4	-	3(1)	3	3	2(1)	-	-	-	-	17(2)
Indian	1	-	3	3	3	2	1	-(2)	-(1)	-	-	13(3)
Métis	1	1	2	-	1	1(1)	-	-	-	-	1	7(1)
Other	-	-	-	-	-	-	-	-	-	1	1	2
<u>Inuvik</u>												
Eskimo	1	6	5	2	2	4	4	-	1	1	-	26
Indian	1	-	1	1	-	-	-	-	-	-	-	3
Métis	-	-	-	-	1	-	1	-	-	-	-	2
Other	1	1	-	-	-	-	1	-	-	-	-	3
<u>Tuktoyaktuk</u>												
Eskimo	1	2	2(1)	3	1	5	4	2	3	-	-	23(1)
<u>Fort McPherson</u>												
Eskimo	-	-	-	-	1	-	-	-	-	-	-	1
Indian	1	4	8	1	3	2	1	2	2	1	-	25
Métis	-	-	-	-	-	2	-	-	-	-	-	2
<u>Arctic Red River</u>												
Indian	1	1	1	6	-	-	1	-	4	1	-	15
Totals	10	19	22 (1)	19 (1)	15	19 (1)	15 (1)	4 (2)	10 (1)	4	2	139(7)

Note: Figures in brackets are additional female trappers.

Source: Mackenzie Manpower Survey D.I.A.N.D.

APPENDIX 25

AGE RANGE OF TRAPPERS BY SETTLEMENT, CENTRAL MACKENZIE REGION, 1969-70 SEASON

Community	15-19	20-24	25-29	30-34	34-39	40-44	45-49	50-54	55-59	60-64	65+	TOTAL
<u>Fort Good Hope</u>												
Indian	2	1	1	4	5	2	-	1	-	1	-	17
<u>Colville Lake</u>												
Indian	-	4	1	1	1	-	-	-	-	2	-	9
<u>Fort Norman</u>												
Indian	1	7	4	3	4	1	-	1	3	2	2	28
Métis	-	-	-	-	-	-	-	-	-	-	1	1
<u>Fort Franklin</u>												
Indian	1	8	6	5	9	5	3	4	3	2	2	48
Totals	4	20	12	13	19	8	3	6	6	7	5	103

Source: Mackenzie Manpower Survey, D.I.A.N.D.

APPENDIX 26

AGE RANGE OF TRAPPERS BY SETTLEMENT, UPPER MACKENZIE REGION, 1969-70 SEASON

Community	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	64-	TOTAL
<u>Wrigley</u>												
Indian	-	-	2	(1)	1	1	2	3	3	1	-	13(1)
<u>Jean Marie River</u>												
Indian	-	-	-	-	-	-	1	2	1	1	-	5
<u>Fort Liard</u>												
Indian	9	4	7	10	8	9	-	4	3	3	4	61
<u>Nahanni Butte</u>												
Indian	3	3	1	-	-	1	1	3	1	2	-	15
<u>Trout Lake</u>												
Indian	2	3	-	2	1	2	-	-	-	-	-	10
<u>Fort Providence</u>												
Indian	-	5	4	2	3	3	6	-	2	2	1	28
Totals	14	15	14	15	13	16	10	12	10	9	5	132(1)

Note: Number of returns for Fort Simpson and Hay River were not considered adequate for reliable assessment of involvement in hunting, trapping and fishing.
Figure in brackets signifies a female trapper.

Source: Mackenzie Manpower Survey, D.I.A.N.D.

APPENDIX 27

WAGE EARNINGS OF TRAPPERS IN MACKENZIE VALLEY 1969-70 SEASON

	1-499	500-999	1,000-1,999	2,000-3,999	4,000-5,999	6,000-7,999	8,000-9,999	10,000	No. of trappers reporting wage income	Total No. of trappers
	\$	\$	\$	\$	\$	\$	\$	\$		
Aklavik	8	7	6	4	3	2	1	-	31	39
Inuvik	1	1	3	6	1	-	-	-	12	34
Tuktoyaktuk	2	3	3	4	2	-	-	1	15	23
Fort McPherson	2	5	13	5	-	-	-	-	25	28
Arctic Red River	-	1	4	4	1	-	-	-	10	15
Fort Good Hope	2	3	3	3	-	-	-	-	11	17
Colville Lake	-	-	-	-	-	-	-	-	-	9
Fort Norman	3	2	4	5	-	2	1	-	17	29
Fort Franklin	10	12	8	3	-	1	-	-	34	48
Wrigley	5	1	1	-	-	-	-	-	7	13
Jean Marie River	4	-	-	-	-	-	-	-	4	5
Fort Liard	24	2	3	1	-	-	-	-	30	61
Nahanni Butte	-	-	9	-	-	-	-	-	9	15
Trout Lake	-	-	-	-	-	-	-	-	-	10
Fort Providence	-	7	1	1	1	-	-	-	10	28
Total	61	44	58	36	8	5	2	1	215	374

Source: D.I.A.N.D. Mackenzie Manpower Survey

APPENDIX 28

BIG GAME RECORDS

LOWER MACKENZIE SETTLEMENTS, 1964-69

Community	Moose	Caribou	Mt. Sheep	White	Bears		Grizzly
					Black	Brown	
Aklavik							
1964-65	26	774	19	-	2	-	7
1965-66	12	647	4	-	6	-	8
1966-67	32	477	23	-	2	1	1
1967-68	14	996	4	-	2	3	1
1968-69	33	541	54	-	1	-	-
Inuvik							
1964-65	21	133	-	3	2	-	-
1965-66	15	52	-	-	1	2	2
1966-67	21	72	-	-	2	-	-
1967-68	35	328	-	-	3	1	-
1968-69	13	129	3	-	-	-	-
Tuktoyaktuk							
1964-65	12	13	-	-	-	-	-
1965-66	7	52	-	22	-	1	-
1966-67	3	57	-	19	1	-	-
1967-68	35	309	-	13	-	1	-
1968-69	17	117	-	10	-	-	-
Fort McPherson							
1964-65	35	492	-	-	2	-	-
1965-66	14	446	-	-	3	-	2
1966-67	35	459	-	-	6	-	-
1967-68	43	1,130	-	-	6	-	1
1968-69	16	742	2	-	8	-	-
Arctic Red River							
1964-65	20	46	-	-	19	-	-
1965-66	11	67	-	-	7	-	-
1966-67	13	-	-	-	7	-	-
1967-68	17	23	-	-	2	-	-
1968-69	11	31	-	-	5	-	-

APPENDIX 29

BIG GAME RECORDS CENTRAL MACKENZIE SETTLEMENT, 1964-69

Community	Moose	Caribou	Mt. Sheep	Black	Bears	
					Brown	Grizzly
Fort Good Hope & Colville Lake						
1964-65	141	389	-	27	-	-
1965-66	116	496	-	14	-	1
1966-67	76	276	-	25	-	-
1967-68	114	497	-	17	-	-
1968-69	66	272	-	21	-	-
Norman Wells & Fort Norman						
1964-65	125	216	11	34	-	2
1965-66	104	143	3	20	-	1
1966-67	92	181	11	28	-	-
1967-68*	93	119	5	17	-	-
1968-69	95	105	2	22	-	-
* 2 Mountain Goat reported						
Fort Franklin						
1964-65	55	199	-	16	1	-
1965-66	88	246	-	12	-	-
1966-67	50	134	-	8	2	2
1967-68	22	67	-	3	-	-
1968-69	23	103	-	-	-	-

APPENDIX 30

BIG GAME RECORDS

UPPER MACKENZIE SETTLEMENTS, 1964-65 TO 1968-69

<u>Community</u>	<u>Moose</u>	<u>Caribou</u>	<u>Mt. Sheep</u>	<u>Bears</u>		<u>Grizzly</u>
				<u>Black</u>	<u>Brown</u>	
<u>Wrigley</u>						
1964-65	62	1	-	10	-	-
1965-66	51	4	-	18	-	-
1966-67	40	16	-	3	-	-
1967-68	48	10	-	16	-	-
1968-69	47	10	-	14	1	-
<u>Fort Simpson</u>						
1964-65	140	39	-	45	2	-
1965-66	64	35	4	71	-	-
1966-67	177	54	-	64	-	-
1967-68	160	28	-	66	-	-
1968-69	150	45	4	67	-	-
* 1 Mountain Goat reported						
<u>Nahanni Butte</u>						
1964-65	41	8	1	9	-	-
1965-66	38	-	1	13	-	-
1966-67	35	-	1	10	-	-
1967-68	30	-	1	13	-	-
1968-69	26	-	1	14	-	-
<u>Fort Liard</u>						
1964-65	95	19	-	17	-	1
1965-66*	82	-	-	25	-	-
1966-67	112	-	-	23	-	-
1967-68**	83	19	-	36	-	-
1968-69	105	19	-	50	-	1

* 2 Deer reported

** 1 Mountain Goat

APPENDIX 30 (cont'd)

<u>Community</u>	<u>Moose</u>	<u>Caribou</u>	<u>Mt. Sheep</u>	<u>Bears</u>		
				<u>Black</u>	<u>Brown</u>	<u>Grizzly</u>
Hay River						
1964-65*	28	24	-	21	-	-
1965-66	48	35	-	38	-	-
1966-67**	55	52	-	28	1	-
1967-68	7	14	-	4	-	-
1968-69	51	36	-	29	2	-

* Incomplete returns

** 3 Deer reported

<u>Fort Providence</u>						
1964-65	23	-	-	13	-	-
1965-66	28	1	-	23	-	-
1966-67	42	5	-	25	-	-
1967-68	55	18	-	41	2	-
1968-69	47	6	-	41	2	-

Source: General Hunting Licence Returns, Game Branch, N.W.T. Government.

ORGANIZED CARIBOU HUNT RETURNS

1969-72

Assistance offered by Game Management varies with the individual hunt but usually involves:

1. logistical advice
2. organizational advice and assistance
3. assistance in determining markets

The purpose in some cases was a business venture while in other cases only enough caribou were sold to pay expenses while the remainder were retained by the hunters for their own consumption.

	1969-70			1970-71			1971-72		
	No. of Caribou (total lbs.)	Price	Gross Revenue (\$)	No. of Caribou (total lbs.)	Price	Gross Revenue (\$)	No. of Caribou (total lbs.)	Price	Gross Revenue (\$)
FORT SMITH REGION									
Fort Smith	33	45¢	1,710.00	25-2,500	50¢	1,250.00	50-5,000	50¢	2,500.00
Fort Rae	27.5	38-50¢	1,411.78				50-5,000	55¢	2,750.00
Yellowknife	32	40¢	1,180.00	72-7,920	40¢	2,168.00	114-15,840	40¢	6,336.00
Snowdrift				100-1,522	40¢	6,088.40	60-6,600	40¢	2,640.00
Hay River				10-1,000	50¢	500.00	50-5,000	approx. 50¢	2,500.00
Fort Resolution							100-10,000	25¢*	1,500.00
INUVIK REGION									
Fort Norman	20	75¢	1,735.00				approx. totals	average	
Fort McPherson	(3)	\$5/qu.					440-44,000	57¢	25,000.00
Fort Franklin (and Ft. Norman)					50-75¢	2,700.00			
Inuvik									
KEEWATIN REGION									
(legislation change 1971-72)									
Repulse Bay							80-13,600	Approx. 65¢	8,840.00
Baker Lake							5-31	65¢	20.15
BAFFIN REGION									
-not applicable	NIL								
TOTALS	83.5-8,350	38-75¢	\$6,036.78	249-30,641	40-75¢	\$13,706.40	924.5-105,071	25-65¢	53,086.15

* price low as sold to other general licence holders.

APPENDIX 32

INDIVIDUAL BIG GAME TAKES

FORT McPHERSON, 1969-70

Hunter	Moose	Caribou	Black Bear	Hunter	Moose	Caribou	Black Bear
1	-	3	-	17	1	2	2
2	-	3	-	18	-	10	-
3	1	3	-	19	-	30	-
4	-	-	2	20	-	3	-
5	1	15	-	21	1	30	-
6	2	9	-	22	-	11	-
7	-	3	-	23	-	17	-
8	1	20	-	24	-	16	-
9	-	16	-	25	3	10	-
10	2	8	-	26	-	7	-
11	1	6	-	27	-	20	-
12	-	4	-	28	-	-	2
13	-	12	-	29	1	5	1
14	-	15	-	30	-	12	-
15	-	13	-	31	-	5	1
16	-	9	-				
TOTALS				31	14	317	8

APPENDIX 33

INDIVIDUAL BIG GAME HARVESTS BY
FORT McPHERSON HUNTERS, YUKON
1969-70

Hunter	Moose	Caribou	Black Bear	Grizzly
1	-	4	-	-
2	-	2	-	-
3	-	7	-	-
4	3	-	-	-
5	-	-	-	1
6	1	2	-	-
7	-	6	-	-
8	-	15	-	-
9	1	-	-	-
10	3	-	-	-
11	-	22	-	-
12	-	2	1	1
13	-	6	-	-
14	-	8	-	-
14	8	74	1	2

APPENDIX 34

INDIVIDUAL BIG GAME TAKES
FORT NORMAN AND NORMAN WELLS,
1969-70

Hunter	Moose	Caribou	Black Bear	Hunter	Moose	Caribou	Black Bear
1	2	1	3	10	1	-	-
2	3	2	-	11	3	2	2
3	1	1	-	12	-	-	1
4	2	-	-	13	1	8	-
5	-	-	2	14	1	1	1
6	1	-	-	15	5	-	-
7	3	2	-	16	3	1*	-
8	-	-	1	17	-	7	-
9	1	-	4				
TOTALS				17	27	25	14

* Hunter also secured two sheep.

APPENDIX 35

INDIVIDUAL BIG GAME TAKES

FORT SIMPSON, 1969-70

Hunter	Moose	Caribou	Black Bear	Hunter	Moose	Caribou	Black Bear
1	8	5	1	35	1	-	-
2	1	-	-	36	1	-	-
3	1	-	-	37	1	-	-
4	7	3	2	38	1	-	-
5	3	-	-	39	1	-	-
6	2	5	-	40	1	-	1
7	2	-	-	41	1	-	1
8	1	-	1	42	1	1	-
9	-	-	1	43	4***	-	2
10	2	-	-	44	4#	-	1
11	2	-	-	45	1	-	1
12	5	-	3	46	2	-	-
13	1	-	1	47	2	-	1
14	1	-	-	48	2	-	1
15	2	-	-	49	2	-	1
16	2	-	1	50	2	-	1
17	7	8	6	51	3	-	1
18	2	-	1	52	4	-	1
19	3	-	2	53	1	-	1
20	2	-	1	54	1	2	-
21	7*	-	1	55	2	-	-
22	9**	7	3	56	3	-	1
23	1	-	-	57	6	2	5
24	3	1	-	58	2	-	-
25	1	-	-	59	1	-	1
26	1	-	1	60	2	1	-
27	1	-	-	61	2	-	1
28	3	-	1	62	1	-	-
29	6	2	5	63	1	-	-
30	2	-	-	64	2	-	3
31	1	-	1	65	1	-	1
32	2	1	-	66	5	-	3
33	-	-	1	67	1	-	-
34	1	-	-				
TOTALS				67	157	32	50

Additional kills : * Mountain Sheep

** Mountain Sheep

*** Mountain Goat

Bison

APPENDIX 36

BIG GAME TAKE, TROUT LAKE

1969-70

Hunter	Moose	Caribou	Black Bear
1	2	1	-
2	-	-	1
3	2	1	-
4	3	2	1
5	3	1	1
6	1	3	1
7	2	-	-
8	1	3	1
9	3	-	-
10	3	1	-
10	20	12	5

APPENDIX 37

BIG GAME TAKE, JEAN MARIE RIVER

1969-70

Hunter	Moose	Caribou	Black Bear
1	1	1	2
2	3	4	2
3	2	3	1
4	2	-	1
5	1	-	-
6	1	-	-
7	1	-	1
8	1	-	-
8	12	8	7

COMPARISON CARIBOU, MOOSE KILLS,
LOWER MACKENZIE REGION
1964-65* AND 1969-70**

Caribou Kill Range of No. Taken by Individual Hunters	Number of Hunter-Trappers					
	Ft. McPherson		Aklavik		Inuvik	
	1964-65	1969-70	1964-65	1969-70	1964-65	1969-70
1-4	12	11	13	25	8	8
5-9	15	12	27	22	8	5
10-19	14	12	21	8	3	3
20-29	5	3	6	5	2	2
30-40	1	-	-	-	-	-
					2	1
					-	-
					-	-
					-	-
					1	-

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Moose Kill Range of No. Taken by Individual Hunters	Number of Hunter-Trappers					
	1964-65		1969-70		1964-65	
	1964-65	1969-70	1964-65	1969-70	1964-65	1969-70
1	8	9	10	3	10	6
2	8	3	2	3	3	2
3	1	3	1	-	2	-
4	1	-	1	-	-	-
5	-	-	-	-	-	-
6	-	-	1	-	-	-
					1	1
					4	-
					2	-
					-	-
					1	1
					-	-

* Bissett, D., The Lower Mackenzie Region, An Area Economic Survey, D.I.A.N.D. Ottawa,
p. 317-321

** Game Management Service, N.W.T.

APPENDIX 39

SECONDARY FOOD RESOURCES

LOWER MACKENZIE SETTLEMENTS, 1964-69

<u>Community</u>	<u>Ptarmigan</u>	<u>Wild Goose</u>	<u>Duck</u>	<u>Grouse</u>
<u>Aklavik</u>				
1964-65	633	191	660	--
1965-66	345	91	791	--
1966-67	682	239	902	--
1967-68	447	147	665	23
1968-69	799	140	760	--
<u>Inuvik</u>				
1964-65	501	294	826	--
1965-66	455	87	1008	--
1966-67	433	329	798	--
1967-68	609	322	748	5
1968-69	1203	226	1037	10
<u>Tuktoyaktuk</u>				
1964-65	1900	853	573	--
1965-66	1821	880	604	--
1966-67	1688	925	546	--
1967-68	2721	2049	801	--
1968-69	2925	1720	1137	18
<u>Fort McPherson</u>				
1964-65	26	2	232	--
1965-66	21	4	245	11
1966-67	58	12	355	--
1967-68	78	8	196	15
1968-69	159	56	844	49
<u>Arctic Red River</u>				
1964-65	56	61	242	12
1965-66	--	34	222	12
1966-67	10	24	165	18
1967-68	155	19	276	--
1968-69	70	14	176	18

APPENDIX 40

SECONDARY FOOD RESOURCES

CENTRAL MACKENZIE SETTLEMENTS, 1964-69

<u>Community</u>	<u>Ptarmigan</u>	<u>Wild Goose</u>	<u>Duck</u>	<u>Grouse</u>
<u>Fort Good Hope and Colville Lake</u>				
1964-65	591	123	1374	261
1965-66	397	111	1166	133
1966-67	193	75	1256	253
1967-68	440	132	1282	644
1968-69	587	153	1028	365
<hr/>				
<u>Norman Wells & Fort Norman</u>				
1964-65	317	82	439	227
1965-66	137	71	529	245
1966-67	478	88	583	472
1967-68	197	--	516	437
1968-69	294	73	518	515
<hr/>				
<u>Fort Franklin</u>				
1964-65	892	107	930	441
1965-66	586	88	797	437
1966-67	120	66	802	418
1967-68	203	30	337	172
1968-69	306	48	621	249
<hr/>				

APPENDIX 41

SECONDARY FOOD RESOURCES
UPPER MACKENZIE SETTLEMENTS, 1964-69

<u>Community</u>	<u>Ptarmigan</u>	<u>Goose</u>	<u>Duck</u>	<u>Grouse</u>
<u>Wrigley</u>				
1964-65	118	6	203	166
1965-66	133	11	235	263
1966-67	73	11	187	214
1967-68	173	34	254	374
1968-69	45	23	195	264
<u>Fort Simpson</u>				
1964-65	189	47	416	391
1965-66	267	64	824	483
1966-67	371	51	607	654
1967-68	362	60	732	1502
1968-69	545	92	1156	1353
<u>Fort Liard</u>				
1964-65	44	--	171	288
1965-66	--	22	111	36
1966-67	54	15	85	7
1967-68	181	45	232	777
1968-69	405	6	335	259
<u>Fort Providence</u>				
1964-65	273	32	432	80
1965-66	351	79	546	64
1966-67	512	98	861	211
1967-68	726	194	1076	260
1968-69	793	127	822	428
<u>Hay River</u>				
1964+65*	263	78	501	144
1965-66	281	58	547	103
1966-67	536	99	943	247
1967-68	98	13	235	82
1968-69	792	110	951	581

* Incomplete returns.

Source : General Hunting Licence Returns, Game Branch, N.W.T. Government

APPENDIX 42

MAIN FOOD SPECIES OF THE MACKENZIE VALLEY

<u>Game Species *</u>	<u>Estimated Quantity of Edible Meat Utilized</u>
Moose	350.0 lb
Caribou	100.0 lb **
Mountain Sheep	150.0 lb
Mountain Goat	150.0 lb
Black or Grizzly Bear	100.0 lb **
Deer	80.0 lb
Bison	600.0 lb
 <u>Fur Bearers</u>	
Beaver	30.0 lb
Muskrat	1.0 lb
 <u>Birds</u>	
Ptarmigan	.9 lb
Geese	3.5 lb
Ducks	2.6 lb
Grouse	1.0 lb

* Deer and Bison do not normally occur in the Valley.

** Quantities of edible meat based on estimates of the Game Management Service, N.W.T.

APPENDIX 43

Non-Resident Big Game Hunting

There are two non-resident hunting zones, 19 and 20 in the Mackenzie Mountains. Two big game outfitters operate in zone 19 and six operate in zone 20. No major conflict occurs between non-resident hunting and resident traditional activities due to the decline in extended hunting - trapping trips by Indians and other general licence holders into the Mackenzie Mountains.

BIG GAME TAKE - NON-RESIDENT

BIG GAME HUNTERS

<u>Species</u>	<u>1969-70</u>	<u>1970-71</u>
Grizzly	28	21
Moose	29	8
Caribou	51	47
Dall Sheep	59	74
Mountain Goat	6	-
Black Bear	1	-
Wolverine	-	3
Wolves	-	2

A total to 164 big game licences were issued in 1969-70.

There were 144 big game hunting licences issued in 1970-71.

APPENDIX 44

Big Game Hunting By Non-Native Residents in the
Mackenzie Valley

Big game hunting returns for non-native residents in the Mackenzie Valley were examined for 1969-70, 1970-71. There appears to be a limited interest in big game hunting by non-native residents in the Mackenzie Valley. Good hunting is not readily available close to the settlements. The bulk of the game harvest occurs in the Hay River area where residents have greater road accessibility to game areas.

GAME TAKE BY NON-NATIVE

RESIDENTS 1970-71

<u>Community</u>	<u>Moose</u>	<u>Caribou</u>	<u>Other Species</u>
Hay River	16	28	1 (black bear)
Fort Liard	1	-	-
Fort Simpson	2	1	1 (sheep)
Fort Good Hope	-	4	-
Inuvik	1	12	-
Fort McPherson	-	8	-
	<hr/>	<hr/>	<hr/>
TOTAL	20	53	2

APPENDIX 45

FORT MCPHERSON

GROSS INDIVIDUAL FUR INCOMES 1969-70*

\$ 36.00	\$ 8.00	\$ 45.50	\$ 72.00
201.00	75.00	166.50	162.00
113.00	20.00	28.00	254.50
28.00	63.00	10.50	168.85
81.00	18.20	79.00	240.00
5.00	202.00	21.00	796.00
93.00	1,586.25	98.00	533.00
146.00	51.00	3.00	91.00
57.54	126.00	82.00	21.00
70.00	850.50	456.00	103.00
499.15	10.00	373.00	448.00
97.65	360.00	175.00	203.00
494.00	112.00	733.25	114.00
8.00	205.00	45.00	22.00
3.75	21.00	10.00	70.00
89.00	396.80	379.00	67.00
221.00	159.00	26.00	248.00
77.00	9.50	65.00	56.50
130.00	204.50	205.00	45.00
78.50	144.25	332.00	12.00
151.00	52.00	202.00	88.00
706.40	75.00	82.00	62.00
339.00	89.00	118.50	1,123.00
310.00	249.00	125.00	57.00
145.00	295.00	123.00	144.75
50.00	54.00	452.80	782.30
522.00	243.50	642.00	72.00
483.00	5.00	279.00	826.25
1,319.00	44.00	48.00	187.00
			112.00

* Each sum represents the fur income of an individual hunter-trapper for the 1969-70 season from the local fur trade.

APPENDIX 45 (cont'd)

ARCTIC RED RIVER

GROSS INDIVIDUAL FUR INCOMES 1969-70

\$ 15.00	\$ 43.70
71.25	32.00
30.00	34.75
70.30	15.20
133.25	76.25
17.05	58.80
660.40	42.00
131.65	49.10
43.00	115.05
79.25	6.50

FORT GOOD HOPE

GROSS INDIVIDUAL FUR INCOMES 1969-70

\$ 22.80	\$ 467.00	\$ 557.50	\$ 110.15
1,057.70	156.00	125.00	380.00
583.00	238.40	92.00	18.00
541.00	714.00	675.00	207.00
568.00	266.00	527.00	314.70
8.50	36.00	655.00	24.55
1,248.50	711.50	687.00	77.20
30.45	338.50	127.50	202.00
311.50	196.00	586.00	14.50
291.00	291.00	382.00	41.20
62.50	57.00	49.00	61.00
55.00	2.25	250.00	102.95
381.50	100.35	44.00	629.00
242.00	211.00	25.00	125.75
450.00	15.00	70.80	152.20
299.00	13.50	343.95	183.50
91.00	18.50	623.00	104.00

APPENDIX 45 (cont'd)

COLVILLE LAKE

GROSS INDIVIDUAL FUR RETURNS

1969-70

\$ 13.00	\$ 13.00
30.00	166.00
40.00	200.00
315.00	74.00
242.00	58.00
20.00	102.00

FORT NORMAN

GROSS INDIVIDUAL FUR INCOMES 1969-70

\$ 171.00	\$ 330.00	\$ 244.85
113.20	320.00	79.00
100.00	21.50	54.35
276.25	156.00	209.50
178.80	337.30	169.00
31.40	48.00	127.60
78.35	270.70	286.00
94.00	330.00	70.00
130.00	411.50	130.00
240.80	314.00	287.55
57.50	71.50	456.50
773.20	2.00	9.00
91.40	1,542.60	2,115.50
1,075.90	14.40	269.30
211.00	133.00	186.50
65.00	199.30	115.00
1,463.50	421.00	269.00

APPENDIX 45 (cont'd)

FORT FRANKLIN

GROSS INDIVIDUAL FUR INCOMES

1969-70

\$ 503.50	\$ 165.00	\$ 158.00	\$ 109.85
321.50	133.00	156.00	52.00
18.70	1,559.00	568.50	35.00
379.10	315.72	7.00	362.35
373.20	10.00	1,047.14	953.80
788.10	513.55	8.80	43.00
2.00	22.00	1,136.00	521.50
25.80	39.00	39.00	2.00
363.40	1.40	831.00	561.50
9.50	10.00	95.00	10.00
.80	280.00	104.00	332.00
244.35	642.85	418.69	1,262.08
258.05	221.95	514.50	548.25
889.00	379.50	1,151.00	426.35
117.00	598.45	1,203.50	769.50
22.60	552.35	1,203.70	.65
1.60	492.00	269.00	432.65
151.00			

APPENDIX 45 (cont'd)

WRIGLEY

GROSS INDIVIDUAL FUR INCOMES, 1969-70

\$ 1,384.55	\$ 478.58	\$ 915.70
1,200.15	481.55	1,079.15
223.00	382.25	243.25
64.25	101.00	298.50
607.75	561.50	25.15
506.75	189.00	6.05
122.85	278.80	521.00
130.00	51.25	288.25
299.15	35.00	1,086.00
116.30	1,560.25	630.85
.75	3.00	507.50
30.50	2.25	1,123.50
394.70	554.75	245.50
		934.50

NAHANNI BUTTE

GROSS INDIVIDUAL FUR INCOMES, 1969-70

\$ 960.90	\$ 449.90
172.50	657.50
529.00	672.90
501.95	475.75
437.40	682.25
471.20	568.50
83.00	388.60
86.00	933.00
106.70	676.00
553.80	171.80

APPENDIX 45 (cont'd)

FORT LIARD

GROSS INDIVIDUAL FUR INCOMES, 1969-70

\$ 43.50	\$ 766.00	\$ 85.00
44.00	55.00	62.75
35.00	90.00	150.75
1,096.50	82.00	380.60
265.30	476.25	230.50
60.00	134.65	661.00
15.80	447.40	1,081.50
224.75	428.35	240.00
167.95	209.00	321.45
124.00	10.00	197.70
54.00	205.00	68.00
20.00	625.25	223.35
497.30	1,025.50	353.60
550.75	108.00	939.00
741.35	153.50	36.00
15.00	251.00	144.00
1,322.50	739.75	
25.00		

APPENDIX 45 (cont'd)

HAY RIVER

GROSS INDIVIDUAL FUR INCOMES 1969-70

\$ 17.00	\$ 112.30	\$ 86.50	\$ 382.00	\$ 33.50
19.00	99.05	79.00	334.90	8.00
549.00	173.00	8.00	220.00	84.00
66.00	161.85	203.65	221.30	29.30
460.80	113.50	11.15	63.05	2.00
60.25	12.40	118.00	21.00	64.50
523.70	66.00	15.00	10.00	108.95
152.30	815.29	100.00	172.05	426.00
263.00	239.00	85.20	269.80	175.00
489.90	7.00	35.90	19.00	1,075.50
42.00	465.75	399.10	26.15	19.00
230.70	19.00	197.30	35.50	24.70
58.50	400.00	57.00	86.50	265.00
477.85	295.60	30.50	4.40	517.05
93.30	107.25	180.05	3.60	85.00
18.20	315.15	59.25	105.85	131.10
183.90	11.70	84.45	246.00	36.40
9.50	201.70	.95	4.35	8.00
10.00	24.55	28.00		

APPENDIX 46

ESTIMATED ANNUAL FISH HARVEST, DOMESTIC FISHERIES 1972

<u>Community</u>	<u>No. of lb</u>	<u>Main Types of Fish Harvested</u>
Mackenzie Delta & Tuktoyaktuk	111,000	Char, whitefish, conny, herring
Fort McPherson (& Arctic Red River)	450,000	Whitefish, herring, arctic char, jacks, suckers
Fort Good Hope Colville Lake	100,000	Whitefish, herring, conny, trout
Fort Norman Norman Wells	29,000	Lake Trout, grayling, whitefish, herring, conny
Wrigley	2,500	Whitefish, jacks, suckers
Fort Simpson	1,000	Whitefish, jacks, suckers
Jean Marie River	800	Whitefish, jacks, suckers
Trout Lake	1,000	Whitefish, jacks, suckers
Nahanni Butte	600	Whitefish, jacks, suckers
Hay River Area	129,000	Whitefish, jacks, suckers
Total Fish Production	824,900	

Source : Economic Staff Group and the Department of
Industry and Development and Game Management
Service, N.W.T.

Terminology: Jacks-northern pike; conny-inconnu

APPENDIX 47

DOMESTIC FISHERIES
SOUTH AND WESTERN END,
GREAT SLAVE LAKE, 1972

<u>LOCATION</u>	<u>PERIOD USED</u>	<u>NUMBER OF FAMILIES</u>	<u>MAJOR SPECIES</u>	<u>TOTAL ESTIMATED HARVEST</u>
Horn River	Summer, Autumn	3-10 families from Fort Providence	Whitefish Pickerel Jackfish	20,000
Beaver Lake	Autumn (occasional one month)	3-4 families from Kakisa Lake	Whitefish	15 - 20,000
Read and McEwan Lakes	Winter	3 families from Fort Providence	Pickerel Jackfish Whitefish	20,000
Kakisa and Tathlina Lakes	Summer, Autumn & Occasional	7 families from Kakisa	Pickerel Jackfish	10,000
Hay river West Channel	Summer	6-10 families Hay River Indian Village	Whitefish Inconnu Pickerel	5 - 10,000
Sandy Creek	Summer	2-4 families Hay River Indian Village	Jackfish Inconnu	2 - 4,000
Buffalo Lake	Autumn and Occasional	5-7 families Hay River Indian Village	Inconnu	15,000
Little Buffalo River	Summer, Autumn	6-10 families Fort Resolution	Whitefish Inconnu Jackfish	8 - 10,000
Rocher River	Autumn and Occasional	12 families Rocher River	Whitefish	20,000

Total Estimated
Harvest 129,000 lb

APPENDIX 48

UPPER MACKENZIE REGION DOMESTIC FISHERIES

<u>Community</u>	<u>Fishing Location</u>	<u>Period Used</u>	<u>No. of Families</u>
Wrigley	Fish Lake*	June, July August	15
	Small lake 2 miles north of River Between Two Mountains	Year round	1
	Unnamed Lake	September	1
	Mouth of Willowlake River	June, July August	1
	West of Trail River to juncture North Nahanni and Mackenzie Rivers	All year	1
	Cli Lake	September	1
	Mackenzie River opposite Trail River and Sibbeston Lake	June, July August September	2
	Martin River mouth	June, July	1
Fort Simpson	Immediate area Mackenzie, Liard Rivers	Year round	10
	West bank Liard due east Antoine Lake	August, September	1
Jean Marie River	Mackenzie River from Spence River to 20 miles east along Mackenzie River	June, July August	6
	McGill Lake	September	1

* One family also uses location in September.

APPENDIX 48 (cont'd)

<u>Community</u>	<u>Fishing Location</u>	<u>Period Used</u>	<u>No.of Families</u>
Nahanni Butte	Liard River around settlement 10 miles south on Liard near Netla River	June, July August	8
	Northwest and Trout Lake	Year round	1
	Trout Lake Settlement and mouth of Island River	Year round	6

DOMESTIC FISHERIES, FORT NORMAN 1972

<u>Community</u>	<u>Location</u>	<u>Season Used</u>	<u>No. of Families</u>	<u>Harvest</u>	<u>Type of Fish</u>
Fort Norman	Bracket Lake, Kelly Lake, Wolverine Creek Watershed	Summer, Autumn, Winter	2	24,000 lbs. fish annual recovery	Lake Trout, Grayling Whitefish
	Great Bear River (near mouth)	Throughout the year except coldest period	1	3,400 lbs. fish annual recovery	Whitefish, Grayling, Herring, Inconnu
Fort Franklin	Wrigley Lake	August & September	3	2,500 lbs fish annual recovery	n/a
	Fort Franklin	no data supplied			
	Small Lake southeast end McVicar Arm	no data supplied (fisheries project)			
	Lac Ste. Thérèse	no data supplied (fisheries project)			

APPENDIX 50

DOMESTIC FISHERIES

FORT GOOD HOPE AND COLVILLE LAKE*

<u>Community</u>	<u>Location</u>	<u>Period Used</u>	<u>No. of Families</u>
Fort Good Hope	Yeltea Lake (south end)	September, October, November, December	2
	Rorey Lake (southwest end)	September, October, November, December	2
	Loon River mouth	July, August, September	2
	Opposite bank Mackenzie	July, August, September	2
	10 miles north Fort Good Hope east bank	July, August, September	3 3
	Hare Indian River mouth	July, August, September	5
	West bank Mackenzie between Fort Good Hope and Ontaratue River (3 camps)	July, August, September	2 2 1
	East bank south of Fort Good Hope for 20 miles (3 camps)	July, August, September	1 2 1

* The main species harvested are whitefish, conny, herring and trout. Total estimated annual production was 100,000 lb in 1972.

APPENDIX 50 (Cont'd)

<u>Community</u>	<u>Location</u>	<u>Period Used</u>	<u>No. of Families</u>
Fort Good Hope	Lac à Jacques northwest corner	October - February	2
	Tunago Lake	October - February	2
Fort Good Hope	Lac Des Bois	October - February	2
	Lac Belot (northeast side)	October- February	1
Colville Lake	Colville Lake 3 locations 1-northeast end	October - February	1
	2-northwest corner	October - February	2
	3-south end	July-August September April	10 5
	Aubry Lake south end	October - February	1
	Aubry Lake northwest side	October- February	1

APPENDIX 51

DOMESTIC FISHERIES OF FORT MCPHERSON AND ARCTIC RED RIVER

<u>Community</u>	<u>Location</u>	<u>Period Used</u>	<u>No. of Families</u>
Fort McPherson	East bank Peel opposite Road River	July-November	2
	Satah River	July-September	3
	10 miles down-river from Satah west bank Peel	July-September	2
	East bank Peel opposite Vittrekwa River	August-September	1
	20 miles upstream from Fort McPherson east bank Peel River	August-September	2
	10 miles upstream from Fort McPherson east bank Peel River	August-October	2
	15 miles upstream from Fort McPherson west bank Peel River	July-October	1
	Neyando Lake Area	Autumn & Winter Fishery	n/a
	East bank Peel River	July to October	4
	West bank Peel River	July to September	1

<u>Community</u>	<u>Location</u>	<u>Period Used</u>	<u>No. Families</u>
Fort McPherson	West side Husky Channel	July to September	1
	Lake fishery south of Indian Village	November to March	n/a
	Peel Channel	July to November	4
	Indian Village Point Separation	July to November	6
	Husky Channel	July to November	2-4
	Husky Channel	September to November	2-4
	Husky Channel	September to November	2-3
	Rat River	August to September	1
Arctic Red River	Island in the Mackenzie River	September to October	4-5
	East side Mackenzie River	July to October	4
	Arctic Red River	July to December	Community
	Tree River	July to September	2

Total Estimated Harvest 450,000 lb

APPENDIX 52

MACKENZIE DELTA FISHERIES

<u>Location</u>	<u>Period Used</u>	<u>No. of Families</u>	<u>Species</u>	<u>Lb. Harvested</u>
Herschel Island	July, August	2	Char whitefish	3,000
Shoalwater Bay	July, August, September	4	Whitefish, conny	6,000
West Channel north of Aklavik	August	4	Trout	4,000
West Channel north of Aklavik	June, July August	4	Whitefish, conny	8,000
Husky Channel, south of Aklavik	August	2	Trout (Char ?)	4,000
Middle Channel	July, August	1	Whitefish, conny	3,000
East Channel	June, July, August, September	1	Whitefish, conny	4,000
Between Middle & East Channel	June, September October	1	Whitefish, conny	2,000
Noel Lake	February, March	1	Whitefish	2,000
Sitidgi Lake	July, August	1	Trout	1,000
East Channel north of Inuvik	June, September October November	2	Whitefish conny	4,000
Middle Channel	June, July, August, September, October	2	Whitefish, conny	5,000

<u>Location</u>	<u>Period Used</u>	<u>No. of Families</u>	<u>Species</u>	<u>Lb. Harvested</u>
North of Tununuk East Channel	July, August	2	Whitefish, conny	4,000
	July, August	4	Whitefish, conny	30,000
	September	1	Whitefish, conny	3,000
Kitigazuit	July, August	4	Whitefish, conny	6,000
Kendall Island	July, August	4	Whitefish, conny	4,000
Tuktoyaktuk	June, July August September	6	Whitefish, conny	10,000
Eskimo Lakes	April, May	4	Whitefish, conny	8,000

Total Estimated Harvest 110,000 lb

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Traditional Activity Areas in Relation to Pipeline Routing

PRIMARY PIPELINE ROUTE
MACKENZIE MOUNTAIN ALTERNATE
OLD CROW SOUTH ALTERNATE
NO. 2 MACKENZIE ALTERNATE
YUKON & ALASKA COASTAL ALTERNATE
EAST MACKENZIE ALTERNATE
HUNTING, TRAPPING, FISHING AREA
Pipeline routings according to pipeline study
groups, Vol. 2

SCALE
ONE INCH TO 32 MILES

YUKON
DISTRICT
TERRITORY

NORTH
WEST

BANKS
ISLAND

VICTORIA

ISLAND

GREAT
BEAR
LAKE

DISTRICT
OF
MACKENZIE

WHITENORSE

CHICAGO
ISLAND

CHICAGO

GREAT
LAKE

ATHABASCA



CALEPH
-33R32-

Correspondence
Held by a donor

MAP INDEX

**SPECIFIC HUNTING, TRAPPING AREAS
1970 - 1971**

MAP INDEXSPECIFIC HUNTING, TRAPPING AREAS, 1970 - 1971

- (1) Occasional fox trapping - 2 men from Aklavik
- (2) Summer sealing
- (3) Whale hunting every year - men from Aklavik and Inuvik
- (4) Fox trapping every year - trappers from Tuktoyaktuk
- (5) Whale hunting
- (6) Fox trapping - Tuktoyaktuk
- (7) Summer caribou and moose hunting
- (8) Winter moose hunting
- (9) Winter moose hunting
- (10) Winter moose hunting
- (11) Northern portion, spring, fall, winter, caribou hunting -
men from Aklavik and Inuvik
Southern portion, spring, fall, winter caribou, some
sheep - Aklavik hunters.
- (12) Well used by all Delta communities - mostly muskrat
- (13) Daylines - Inuvik trappers
- (14) Marten, mink, some beaver - last 2 years only, 1 or 2
trappers
- (15) Mink, beaver, marten, lynx, wolverine - 1 or 2 trappers,
shift lines from year to year
- (16) One trapper shifts lines both east and west of this area
- (17) Good lynx area - Aklavik trappers
- (18) Moose hunting
- (19) Spring beaver and muskrat - Fort McPherson trappers
- (20) Spring beaver and winter traplines for beavers, mink and
lynx and marten - Fort McPherson and Arctic Red River
trappers
- (21) Used occasionally for lynx lines
- (22) Used every year by one trapper
- (23) Mainly spring beaver, some winter lines - Fort McPherson
trappers

Map Index (cont.)

- (24) Daylines for spring beaver and muskrat - Arctic Red River trappers
- (25) Some daylines, some spring beaver and muskrat - Arctic Red River trappers
- (26) Used every year for marten, beaver and muskrat - 3 or 4 trappers
- (27) One man has camp here, production not known
- (28) Probably used by one man, previously trapped by men from Arctic Red River for marten
- (29) III defined areas, only one man uses total area and shifts lines from year to year
- (30) Marten - used very little in last 8-10 years by Fort Good Hope people
- (31) Marten and beaver - Fort Good Hope trappers
- (32) Used every spring for beaver and muskrat
- (33) Spring beaver
- (34) Caribou hunting area - Arctic Red River and Fort McPherson hunters
- (35) Lynx and marten
- (36) Marten and lynx in river valleys
- (37) Beaver
- (38) Marten
- (39) Lynx and marten - moose hunting on Peel River every year
- (40) Fall moose hunting
- (41) Fall moose
- (42) Spring beaver
- (43) Marten, last used 3-4 years ago
- (44) Marten, mink, beaver, lynx, not used in several years
- (45) Marten, last used 2 years ago
- (46) Occasional use
- (47) Good potential but not used by Fort Good Hope trappers for 20 years

Map Index (cont.)

- (48) Long time in use, trapped for beaver and marten
- (49) Exceptionally good trapping area for beaver, mink, marten, muskrat - Fort Good Hope trapper, traditional area
- (50) Most intensively trapped area by Fort Good Hope trappers
- (51) Although good beaver, etc., Fort Good Hope people do not come this far south
- (52) Moose hunting by Fort Norman and Norman Wells people, used very little
- (53) Part-time beaver and marten trapping by 1 or 2 trappers from Norman Wells
- (54) Very little trapping in this area. Part-time only-Norman Wells
- (55) Occasionally used for beaver trapping and woodland caribou
- (56) Well used, excellent beaver also marten, mink muskrat - Fort Norman trappers although open to Fort Franklin people. Good duck hunting on Brackett Lake.
- (57) Favoured winter moose area - Fort Norman people
- (58) Marten country, 4-6 trappers. Moose, mink, muskrat and beaver, caribou also taken
- (59) Traditional area shared by Fort Franklin people - marten, beaver, mink, otter, moose and a few caribou
- (60) Moose hunting along shoreline, southern portion used by almost all Fort Franklin trappers
- (61) Mink - 2 trappers from Fort Franklin
- (62) Woodland caribou hunted by Fort Franklin people for last 8 years
- (63) Moose hunting along shore
- (64) Beaver, marten, mink - long used by Fort Franklin trappers
- (65) Excellent marten for last 4-5 years - 1 trapper
- (66) Best white fishing area for Fort Franklin people. Long time use.

Map Index (cont.)

- (67) Actively trapped for marten, beaver, fox by Fort Norman people
- (68) Traditional moose hunting area - Fort Norman hunters
- (69) Beaver, marten, muskrat, 2-4 trappers
- (70) Woodland caribou winter range
- (71) Long used trapping area by Fort Franklin trappers - marten, beaver, mink, moose, woodland caribou
- (72) For last few years most of trapping done north of this area. Trappers do not venture out too far anymore.
- (73) Government Post camp to be set up in the spring. Seven families trapping actively will likely move into surrounding area, especially east.
- (74) Most trapping activity is confined to this area although potential to the east is exceptionally good.
- (75) Beaver are excellent in this area
- (76) Moose hunting 6-7 years ago - Fort Norman trapper canoe trip
- (77) Traditional caribou hunting area of Fort Norman people - mainly along North Redstone River
- (78) Active wolverine trapping - Wrigley trappers
- (79) Beaver - 2 Wrigley trappers
- (80) Wolverine - 2 Wrigley trappers
- (81) Potential area, not presently used - marten, muskrat, mink
- (82) Used in the past, before decline in trapping
- (83) Muskrat and marten, very little trapping in this area
- (84) Good potential, not used
- (85) Marten, part-time by 1 trapper
- (86) Boundary of traditional area hunted and trapped by Wrigley people. Few if any venture into this area now.
- (87) Beaver, mink, lynx - used infrequently by 1 or 2 Wrigley trappers
- (88) Traditional fish source for Wrigley people
- (89) & (90) Mink, beaver, marten - actively trapped areas, full-time trappers

Map Index (cont.)

- (91) Used for a long time but not intensively
- (92) Spring beaver, used most years
- (93) Used by 1 Fort Simpson trapper
- (94) Spring beaver areas occasionally used by Fort Simpson trappers
- (95) In long use but not too active, 1 trapper
- (96) Spring beaver and marten, 2 active trappers have registered line
- (97) Occasional spring beaver - Lac la Martre trappers
- (98) Spring beaver areas - Fort Providence trappers
- (99) Marten on Horn Plateau - Fort Providence trappers
- (100) Excellent marten on Horn Plateau. Used every year by Fort Providence and Fort Simpson people. Trappers from Lac la Martre also come in frequently
- (101) Used most years for marten by 3 Fort Simpson trappers
- (102) Marten on Horn Plateau - 1 Fort Simpson trapper
- (103) Lynx area also beaver - 1 Fort Simpson man
- (104) Beaver, mink, lynx, muskrat - 3 Fort Providence trappers
- (105) Two trappers from Fort Providence
- (106) Beaver, mink, lynx, muskrat - Fort Providence trappers - access to Horn Plateau
- (107) Daylines, Fort Providence
- (108) Daylines, Fort Providence - 1 trapper
- (109) Potential area may have been used this year by 2 Fort Providence trappers for lynx
- (110) Lynx, beaver, mink - 1 Fort Providence trapper
- (111) Not used last 2 years
- (112) Occasionally used by 1 Fort Simpson trapper for beaver
- (113) Occasionally used for spring beaver by Fort Simpson trapper
- (114) Area fairly well used
- (115) Access route to marten used by Fort Simpson trappers
- (116) Beaver, mink, lynx - 1 trapper, Fort Simpson

Map Index (cont.)

- (117) Spring beaver - occasionally used by Fort Simpson trappers
- (118) One trapper from Fort Simpson
- (119) Daylines, Fort Simpson
- (120) Generally used but poor
- (121) Has been used 10 years or more by Fort Simpson trappers
- (122) Used by 1 trapper for 10 years
- (123) Lynx, well used each year, Fort Simpson brothers
- (124) Temporary area - 1 trapper, Fort Simpson
- (125) Used 10 years or more - 1 Fort Simpson trapper
- (126) Beaver, lynx - Jean Marie area
- (127) Well used - brothers from Fort Simpson have registered trap line
- (128) Used for last 3 or 4 years by one Fort Simpson trapper
- (129) Beaver, mink, marten, lynx - 2 Fort Providence trappers
- (130) Beaver, mink, muskrat, marten, lynx - well used by Nahanni Butte trappers
- (131) Exact area and status of trapping unknown- probably used 1971 - 1972 season
- (132) Beaver, mink, lynx - well used by 2 Nahanni Butte men
- (133) Spring beaver - Fort Liard trappers
- (134) Well used - Fort Liard trappers
- (135) Well used - Fort Liard trappers
- (136) Beaver, mink, lynx, well used by Fort Liard trappers
- (137) Well used - Fort Liard trappers
- (138) Well used - Fort Liard trappers
- (139) Beaver, mink, lynx and some marten and muskrat - used every year by 4 or 5 Fort Liard trappers
- (140) Marten, mink, lynx, beaver, wolverine, muskrat - well used by Trout Lake trapper - year round camp
- (141) Five Trout Lake men trap this area
- (142) Fall moose
- (143) Lynx - used last 2 years by 1 Trout Lake trapper

Map Index (cont.)

- (144) Not used for 2 years
- (145) Well used by 1 Trout Lake trapper - lynx, mink, beaver, wolverine, fox, marten
- (146) Well used by 2 Trout Lake trappers - lynx, mink, beaver, wolverine, fox, marten
- (147) Trapped for 3 or 4 years by 1 Hay River man
- (148) Marten, lynx, beaver, muskrat - used for 4 years by 1 Hay River trapper
- (149) Marten, lynx, beaver, muskrat - area used 3 years by 1 Hay River trapper
- (150) Spring muskrat, moose in summer and fall - Kakisa Lake trappers & hunters
- (151) Daylines
- (152) Beaver, mink, lynx, muskrat - 4 or 5 Kakisa Lake trappers
- (153) Beaver, mink, lynx, muskrat - Kakisa Lake Area, well used
- (154) Spring beaver areas - Indian cabins - 1 Alberta trapper
- (155) Beaver, mink, muskrat, lynx - well used by 1 trapper
- (156) Beaver, mink, marten, lynx, wolverine - well used by 4 to 8 Alberta trappers
- (157) Northern portion is new area of 1 Hay River trapper, southern portion was same trapper's area until this season (1971-72) - it may be used by Alberta Indians.
- (158) Spring beaver area - Indian cabins, Alberta
- (159) Beaver, marten, mink, lynx - well used area by 1 Alberta trapper
- (160) Beaver, marten, mink, lynx - well used by 3 trappers
- (161) Used 2 years by 1 trapper
- (162) Used 2 years by 2 trappers
- (163) Recently came into use - 4 trappers
- (164) Walking lines - 1 trapper
- (165) Lynx, marten, beaver, mink, muskrat - long used area - 4 trappers
- (166) (Nothing specified)
- (167) Dayline, Hay River

Map Index (cont.)

- (168) Access to Hay River trapping area
- (169) Well used every year - 3 trappers
- (170) One trapper plans to use this area, 1971-72 season
- (171) One trapper in this area last year
- (172) Used until 1971-72 season. May be picked up by another trapper
- (173) Lynx, marten, mink, beaver - used more than 10 years
- 1 trapper
- (174) Part of old group trapping area now used mainly by
1 trapper
- (175) Occasionally used by Park trappers
- (176) Well used by 2nd group of Park trappers

Source: Based on field data collected by Environmental Mapping Project, Economic Geography Section, Department of the Environment, for D.I.A.N.D. and discussions with Game Management Service Staff, N.W.T.

Map Index (cont.)

HUNTING, TRAPPING AND FISHING AREAS IN DIRECT PROXIMITY TO
PROPOSED AND ALTERNATE PIPELINE ROUTES

Primary Pipeline Route

- (18) Moose
- (19) Spring beaver and muskrat - Fort McPherson trappers
- (23) Mainly spring beaver, some winter lines - Fort McPherson trappers
- (34) Caribou hunting area - Arctic Red River and Fort McPherson hunters
- (42) Spring beaver
- (43) Marten, last used 3 or 4 years ago
- (44) Marten, mink, beaver, lynx, not used in several years
- (46) Occasional use
- (49) Exceptionally good trapping area for beaver, mink, marten, muskrat - Fort Good Hope trapper, traditional area
- (51) Although good beaver, etc., Fort Good Hope people do not come this far south
- (52) Moose hunting by Fort Norman and Norman Wells people, used very little
- (53) Part-time beaver and marten trapping by 1 or 2 trappers from Norman Wells
- (54) Very little trapping in this area. Part-time only - Norman Wells
- (67) Actively trapped for marten, beaver and fox by Fort Norman people
- (68) Traditional moose hunting area - Fort Norman hunters
- (83) Muskrat and marten, very little trapping in this area
- (90) Mink, beaver, marten - actively trapped area, full-time trappers
- (91) Used for a long time but not intensively
- (93) Used by one Fort Simpson trapper
- (94) Spring beaver areas occasionally used by Fort Simpson trappers
- (95) In long use but not too active, 1 trapper
- (111) Not used last 2 years

Map Index (cont.)

- (114) Area fairly well used
- (117) Spring beaver-occasionally used by Fort Simpson trappers
- (119) Daylines, Fort Simpson
- (120) Generally used by poor
- (123) Lynx, well used anytime each year, Fort Simpson brothers
- (127) Well used - brothers from Fort Simpson have registered trap lines
- (130) Beaver, mink, muskrat, marten, lynx - well used by Nahanni Butte
- (133) Spring beaver - Fort Liard trappers
- (136) Beaver, mink, lynx, well used by Fort Liard trappers
- (137) Well used - Fort Liard trappers
- (138) Well used - Fort Liard trappers
- (156) Beaver, mink, marten, lynx, wolverine - well used by 4 to 8 Alberta trappers

Yukon and Alaska Coastal Alternate

- (11) Northern portion, spring, fall, winter caribou hunting - men from Aklavik and Inuvik
Southern portion, spring, fall, winter caribou and some sheep - Aklavik hunters
- (17) Good lynx area - Aklavik trappers
- (18) Moose Hunting
- (19) Spring beaver and muskrat - Fort McPherson trappers
- (23) Mainly spring beaver, some winter lines - Fort McPherson trappers

East Mackenzie Alternate

- (17) Good lynx area - Aklavik trappers
- (18) Moose hunting
- (20) Spring beaver and winter trap lines for beaver, mink and some lynx and marten - Fort McPherson and Arctic Red River trappers

Map Index (cont.)

- (21) Used occasionally for lynx lines
- (22) Used every year by one trapper
- (24) Daylines for spring beaver and muskrat - Arctic Red River trappers
- (25) Some daylines, some spring beaver and muskrat - Arctic Red River trappers
- (26) Used every year for marten, beaver and muskrat - 3 or 4 trappers
- (27) One man has camp here, production not known
- (28) Probably used by one man, previously trapped by men from Arctic Red River for marten
- (29) III defined area, only one man uses total area and shifts lines from year to year
- (31) Marten and beaver - Fort Good Hope trappers
- (34) Caribou hunting area - Arctic Red River and Fort McPherson hunters
- (50) Most intensively trapped area by Fort Good Hope trappers

Old Crow South Alternate

- (33) Spring beaver
- (34) Caribou hunting area - Arctic Red River and Fort McPherson hunters
- (35) Lynx and marten
- (36) Marten and lynx in river valleys
- (37) Beaver trapping
- (39) Lynx and marten - moose hunting on Peel River every year
- (44) Marten, mink, beaver, lynx, not used in several years
- (45) Marten, last used 2 years ago

Mackenzie Mountain Alternate

- (34) Caribou hunting area - Arctic Red River and Fort McPherson hunters
- (36) Marten and lynx in river valleys
- (38) Marten

Map Index (cont.)

- (39) Lynx and marten - moose hunting on Peel River every year
- (40) Fall moose hunting
- (52) Moose hunting by Fort Norman and Norman Wells people, used very little
- (78) Active wolverine trapping - Wrigley trappers
- (80) Wolverine - 2 Wrigley trappers
- (81) Potential area not presently used - marten, muskrat, mink
- (82) Used in the past, before decline in trapping
- (87) Beaver, mink, lynx - used infrequently - 1 or 2 Wrigley trappers
- (94) Spring beaver areas occasionally used by Fort Simpson trappers
- (111) Not used last 2 years
- (114) Area fairly well used
- (116) Beaver, mink, lynx - 1 trapper, Fort Simpson
- (117) Spring beaver - occasionally used by Fort Simpson trappers
- (125) Used 10 years or more - 1 Fort Simpson trapper
- (130) Beaver, mink, muskrat, marten, lynx - well used by Nahanni Butte trappers
- (140) Marten, mink, lynx, beaver, wolverine, muskrat - well used by one Trout Lake trapper - year round
- (146) Well used by 2 Trout Lake trappers - lynx, mink, beaver, wolverine, fox, marten

No. 2 Mackenzie Alternate

- (51) Although good beaver, etc., Fort Good Hope people do not come this far south
- (52) Moose hunting by Fort Norman and Norman Wells people, used very little
- (54) Very little trapping in this area. Part time only - Norman Wells

Traditional Areas Affected by Mackenzie Highway

- (13) Daylines - Inuvik trappers
- (21) Used occasionally for lynx lines

Map Index (cont.)

- (22) Used every year by one trapper
- (28) Marten trapping Arctic Red River trappers
- (29) Used by one trapper
- (31) Marten and beaver trapping. Fort Good Hope people
- (50) Most intensively used trapping area Fort Good Hope trappers
- (52) Moose hunting - Norman Wells, Fort Norman people
- (53) Part-time beaver, marten area. Fort Norman trappers
- (68) Traditional moose hunting area - Fort Norman hunters
- (90) Active trapping area - Fort Wrigley trappers
- (91) Occasionally used trapping area
- (93) Used by one Fort Simpson trapper
- (119) Daylines from Fort Simpson

